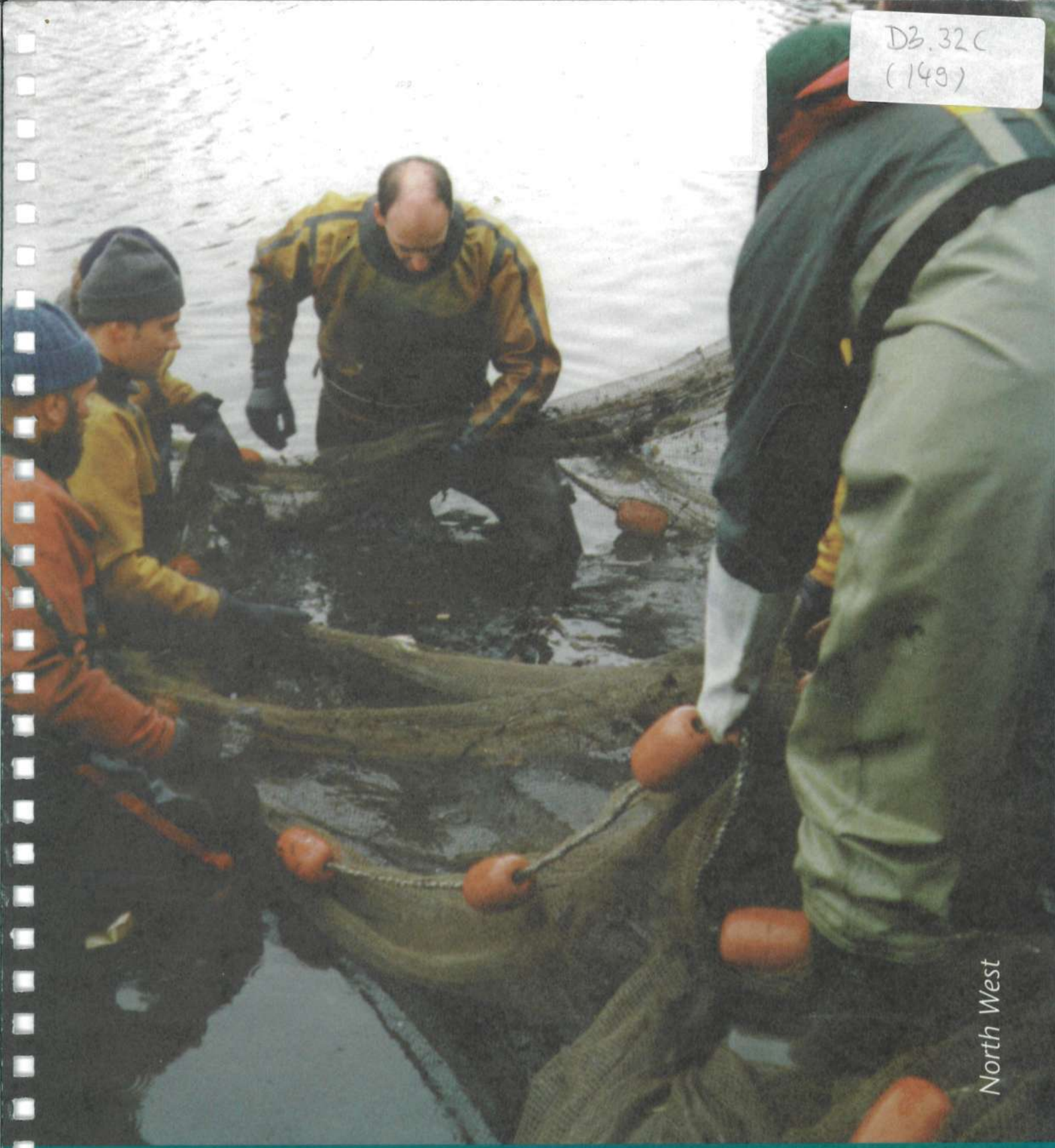


North West

Fisheries

annual report 1998

ENVIRONMENT AGENCY

1998 ANNUAL REPORT ON FISHERIES IN THE NORTH WEST INCORPORATING THE ANNUAL SUMMARY OF FISHERY STATISTICS

Contents

INTRODUCTION

This is the fourth Annual Report on fisheries produced by the North West Region of the Environment Agency. The Agency has many customers and anglers comprise, numerically, the largest single group. The Agency in the North West divides along functional lines to deliver the service 'on-the-ground'. The fisheries function, along with ecology and recreation, (FER), is incorporated into Water Management, which comprises water resources, flood defence and FER. Environmental Protection covers water quality, radioactive substances regulation, process industries regulation (PIR), integrated pollution prevention and control (IPPC), waste and land quality.

Fisheries can benefit by work done by other functions. For example, water quality improvements may lead to self-sustaining healthy fish populations. The Agency aims to assist this process by introducing fish on an ongoing basis to regenerated rivers. There have also been schemes that have been managed by other functions that have directly benefited fisheries. Examples include the River Gelt fish pass (see North projects in report) and the River Alt rehabilitation scheme (see Central Area projects).

The fisheries service is funded in the main by a mixture of rod licence income and government grant-in-aid. The latter has declined substantially since the mid 1990's and we are increasingly reliant on licence income to fund fisheries work. The good news is that licence income has gone up as a result of promotional campaigns and targeted enforcement in areas of high evasion. In recent years, we have managed to use some of this money to fund our Urban Fisheries Development Programme, (UFDP). This is aimed at delivering new or improved fisheries in areas where demand for fishing is high, but where available fisheries are few in number or of poor quality. This work is dependent on good co-operation with local angling clubs, councils and other interests.

We give many examples of these projects in the report, with the Liverpool Park Lakes being in the forefront.

As well as this improvement work in coarse fisheries, we are also aiming to protect and improve salmon and seatrout fisheries with a mixture of enforcement, regulation and habitat improvement. Again we cite many examples of this in the report, but the reader's attention is drawn particularly at the work on the River Eden to monitor spring salmon movement (North Area projects), the District Reports 1998 section and the River Lune Net Limitation Order and byelaw package (Regional Developments section).

This report has four main aims:

* To inform the Agency's customers of developments within the Agency
* To inform the Agency's customers of the work carried out by the Agency
* To publish information on the performance of fisheries and the Fisheries Department
* To be a source of future reference

This report is divided into 5 main sections: National Overview, Regional Developments, District Fisheries reports, Selected Projects and Surveys, Appendix - incorporating the annual summary of fishery statistics

We report on fisheries performance for the calendar year 1998 and on fisheries activities for the year 1st April 1998 to 31st March 1999.

This report could not have been written without the help and co-operation of the Area Fisheries staff who provide a unique service direct to the local fishing community.

We hope that you find this report interesting and informative.

The Agency would welcome any comments and suggestions that could be used to further improve the annual report. Comments should be directed to the Fisheries Department at the address below.

Environment Agency North West Region, Richard Fairclough House, PO Box 12, Knutsford Road, Warrington WA4 1HG, Tel: 01925 653999

NATIONAL OVERVIEW: MANAGING FRESHWATER FISHERIES

♦ Strategic Initiatives

We continued to implement the Fisheries Action Plan, published in 1997. Salmon Action Plans were developed during 1998/9. We consulted on the draft of the Coarse Fisheries Strategy, which was published in March 1999. We began development of the brown trout strategy during 1999.

We were heavily involved in giving evidence to the Government's review of fisheries legislation, submitting 17 papers in evidence. We hope that some of the recommendations of the Review Group will help to formulate a long-term funding strategy.

During 1998/9 we reported on research into the economic value of fisheries in England and Wales.

♦ Regulation

Rod fishing licence duties were reviewed during 1998/9, and Ministers approved a £2 increase in both migratory salmon and coarse & trout licence prices to take effect from 1 April 1999. The proposals drew only 23 objections from interested parties.

Licence sales decreased slightly compared to 1997/8, primarily due to unseasonably cold weather and severe flooding during the early part of the year. The football World Cup also had an impact on licence sales. The marketing and enforcement campaign continued, and it is anticipated that licence sales will be increased to over the 1997/8 level next year.

A new contract to sell rod licences was awarded during 1999. In addition to counter sales, they will offer a telephone sales service from March 1999.

Acting upon NASCO advice, MAFF asked the Agency to introduce measures to conserve stocks of spring salmon. Following consultation, new byelaws were advertised which would reduce exploitation of the component of the stock. The proposals received nearly 1,400 objections. The proposed byelaws reduced exploitation of spring salmon by:

- Delaying the start of the net fishing season,
- Introducing mandatory catch and release of salmon in the early season,
- Restricting the use of natural baits,
- Restricting the number and size of hooks.

The byelaws, excluding the hook restrictions, were confirmed by Ministers and applied from 15 April 1999 and will apply for 10 years. Some net fisheries were granted an exemption to fish for sea trout provided that all salmon caught are returned.

♦ Checking Fisheries Stocks Status

The standard fisheries classification system development was completed, and updated computer software was introduced. We will monitor every river fishery over a five year cycle.

We are currently reviewing our fisheries monitoring protocol to ensure that we are providing the best information in the most efficient way.

♦ Improvement

Improvement of habitat, both in-stream and bank-side is one of our priorities. We spent over £1million improving habitat during 1998/9. Many of these schemes were carried out in partnership with others such as angling clubs or local authorities. We often follow habitat improvements with a stocking programme. The projects restored fish populations to previously fishless or poor quality fisheries.

We also improved spawning areas by improving habitat and reducing impacts from pollution such as minewaters.

REGIONAL DEVELOPMENTS

♦ Lune Net Limitation Order & Byelaw package

Central Area and Regional staff have developed proposals for the Net Limitation Order (NLO) and byelaw package for the River Lune. The present NLO was made in 1989 and ends at the end of the 1999 fishing season. There was therefore a need to assess whether to extend or change the current Order. Since 1989 there had been a number of developments. The most significant of these was a Ministerial Direction placing a duty on the Agency to develop and set spawning targets for all major salmon rivers in England and Wales

Analysis of data on run size over the period since 1989 indicated that the number of eggs deposited was generally below the optimum for the river. The optimum level is the number of eggs that need to be deposited in order to maximise the number of salmon available to both the net and rod fishery. This particular number of eggs has been termed the conservation target or spawning target. Since 1989 the number of eggs deposited is estimated to range from 6.6 –16.3 million egg and only in two out of the last ten years has it exceeded the target of 11.9 million egg. In developing proposals many factors were taken into account. These included local social and heritage issues and the socio-economic benefit of the salmon fishery. It was proposed that to ensure an economically viable and sustainable net fishery, the number of nets be reduced from 37 to 19, and a four fish annual bag limit introduced for anglers.
These proposals will be advertised in July 1999.

♦ Campaign to increase the sales of the rod licence

The campaign was developed in the North West and is now in its fourth year. It aims to stimulate the sales of annual coarse and trout licences and uses a combined advertising, media and enforcement campaign targeted at high evasion times and places using local knowledge and rod licence sales data.

The campaign was co-ordinated and monitored by the North West and was implemented as planned. Evasion rate is still falling and the penetration of licence advertising and media coverage has increased to 87%.

Sales were down slightly this year (1998/9), and we are confident that this is due to the predicted impact of the World Cup and the very poor weather in spring. We intend to repeat the campaign in 1999/00 with some minor modifications.

The licence sales campaign also includes two initiatives to stimulate sales in the longer term by increasing participation (rather than by reducing evasion). Market research indicates that ease of access to fishing is the major barrier to participation. Access is prevented by:

- a lack of knowledge on where to fish and how to gain permission to fish and
- a lack of fisheries within a reasonable distance, (a particular problem in some urban areas).

In response the North West has:

- developed an on-line Angling Information database for the North West Region (which has been adopted as a national system) to support enquiries to customer service centres and will publish a new 'where to fish' guide in 1999/00
- developed an urban fisheries development programme

♦ PR Plans

The North West Region has continuously improved the promotion of its fisheries work with the aim if increasing the public's understanding of the work that the Agency does for fisheries.

Our current plan has the following elements aimed at different segments of the public:

'CATCH' magazine is aimed at the individual angler and is distributed to anglers in the NW and NE regions as a free insert in the 'Angling Times' (It is also sent to angling clubs, fishing tackle dealers, tourist centres and in response to public enquiries). We believe that it hits a greater audience, and hits this audience more effectively, than any other Agency publication and our market research tends to confirm this:

72% read Catch thoroughly, 98% find it interesting, 81% of readers' feel well informed about the Agency's fisheries work.

Media coverage is the most cost-effective way to get to the general public and we have been very successful at getting coverage with the assistance of the PR department.

RFERAC, all major angling clubs, tackle shops and all NW reference libraries receive Annual reports on fisheries activities.

We conduct Area fisheries seminars (ca. 100 attendees per seminar) aimed at local people in the fisheries world with three objectives:

- To inform our customers of work done by the Agency;
- To have independent experts inform the audience on aspects of fisheries management;
- To listen to customers to understand how we might improve our service;

In association with the IFM we offer courses, (always over subscribed), on fisheries management and related subjects with the aim of educating the angling community to facilitate change.

Finally, we distribute information on the bank as we encounter anglers (e.g. byelaw leaflets and Catch).

Key items promoted recently (in addition to national items) include:

- the development of the River Mersey as a fishery
- the greater cost-benefit of habitat improvement when compared to stocking.
- salmon Byelaws
- avoiding still water fish kills
- the sustainable river management programme
- the urban fisheries development programme

Habitat Improvement

The reader's attention is drawn to the many examples of habitat improvement work undertaken in the region highlighted in the District Reports and Projects sections.

There are many examples of the Agency working in partnership with others to improve habitats. Stock proof fencing has been erected on many sites and considerable work has been carried out in improving spawning grounds (See Special Projects, River Lune ORSU).

♦ Sustainable River Management Project

The Sustainable River Management Project had a very successful first year, and is continuing the success into a second year.

The aim of the project is to provide a mechanism for influencing farming practices on a catchment scale. To do this the Agency is collaborating with the Farming and Wildlife Advisory Group (FWAG) as a conduit into the farming community. FWAG visit farms in the target catchments and produce a farm wide report called Landwise. This report highlights farming practices that may be affecting the river and suggests better alternatives. FWAG also assist with grant applications and explores alternative funding to ensure there is uptake of best practice advice. To drive the message home promotional events such as workshops and farm walks have been organised. More than 50 farmers have attended these events and they have proved an excellent way of getting the message across.

Further details of the project can be obtained by reading the *'North West Conservation, Biology and Recreation Report 1998/9'* which is available from regional head office in Warrington (address on back cover of report).

Urban Fisheries Development Projects (UFDP)

These projects are designed to target urban areas where there is a high demand for fisheries and poor facilities. The Agency is working in collaboration with others to develop new or improved fisheries. Examples of current schemes are given in the Projects section of this report.

Scottish Devolution

See page 19, North Area

DISTRICT REPORTS 1998

♦ INTRODUCTION

The reports in this section were written by Area Fisheries staff who have the operational responsibility for carrying out fisheries work and delivering our service to our local customers: mainly anglers and commercial netsmen.

They offer an insight into the day to day activities that feature prominently in the district concerned.

The service is provided on a local basis with Fisheries Officers living in the communities where our customers live. They are thus able to gauge local concerns and issues very accurately. This gives us the opportunity to tailor our service to meet customer needs and also to deliver improvements where they are most needed.

This offers many challenges to the staff concerned. Fisheries Officers are uniquely qualified to deliver the fisheries service. In addition to the requirements to have expertise in fishing matters and knowledge and interest in wildlife, they must also know and understand legal technicalities in enforcing complex legislation regulating fisheries. They are empowered as police constables under the Salmon and Freshwater Fisheries Act 1975. They have powers of arrest and seizure of equipment or vessels if necessary. They also need personal qualities of tact and diplomacy in dealing with the public, a great deal of common sense, a good level of fitness and the willingness and tenacity to work long unsociable hours, often in freezing, wet weather.

Fisheries staff can often be involved in confrontational situations. They are trained to use the minimum force necessary. There is a procedural manual that contains instructions that staff must follow in their daily duties - compliance is mandatory. It covers enforcement policies and procedures, equipment and clothing, health and safety, use of vehicles, discipline and code of conduct, fish retention, movement, seizure, storage and disposal.

Their day to day work can be very varied and plans can be easily disrupted by emergencies, such as fish kills, where attendance would normally take precedence over other duties.

Regionally, the main areas of activity are in enforcement of fisheries laws, monitoring fisheries and stocking.

The chart on the next page shows the wide range of activities in which Fisheries Officers get involved. Recent years have seen a big increase in habitat improvement work as mentioned earlier in this report. We would like to increase our efforts in this area and also in our urban fisheries development programme, but this largely depends on improving licence sales and securing grant-in-aid from the government. Anglers can help by ensuring they buy licences and support the Agency in the fisheries work we undertake.

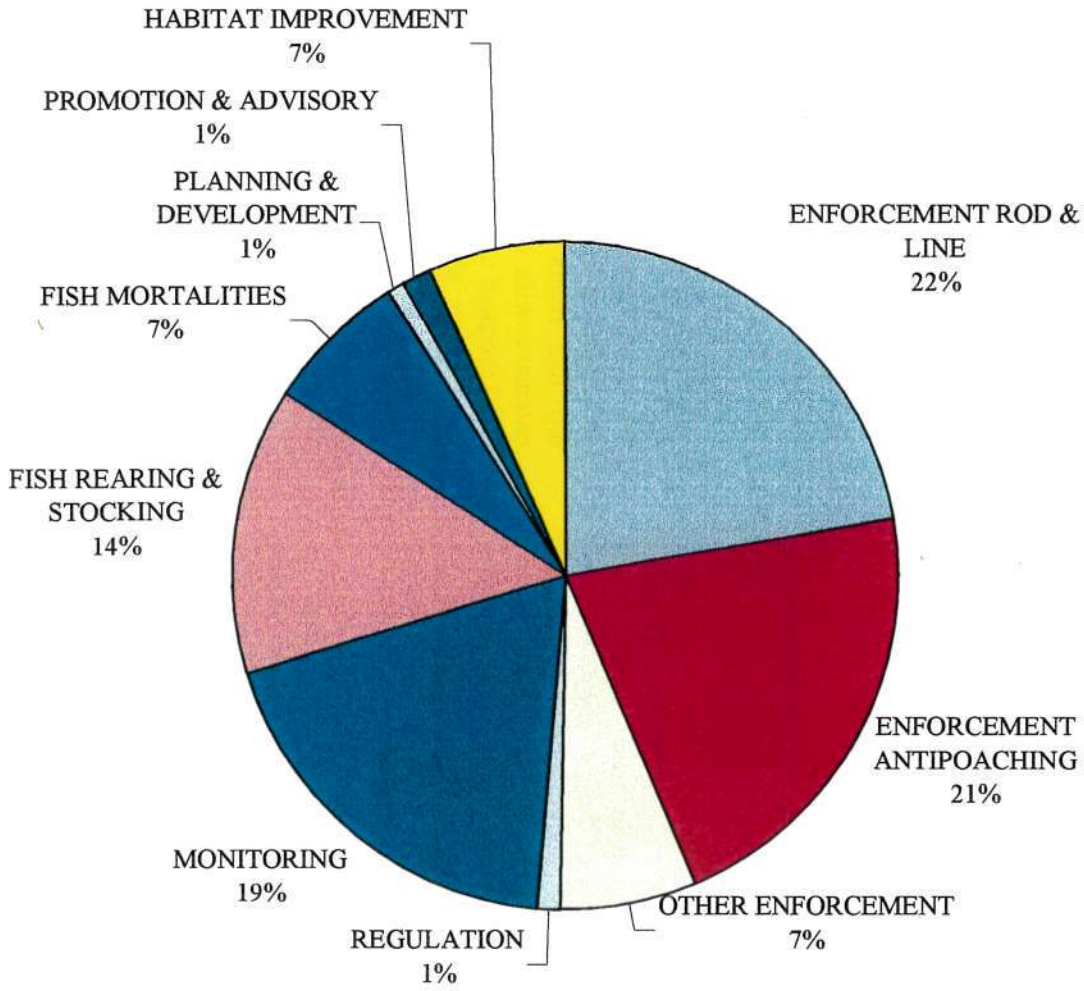
In the North Area, antipoaching work features prominently because of the excellent game fisheries including some of the best salmon rivers in the country. Our staff make determined efforts to track down and catch poachers, who are often seasoned criminals with no regard for the damage their activities can do.

There are also excellent coarse fisheries in the Lake District where anglers can have good sport.

Central Area combines the best of both game and coarse angling. Good quality salmonid rivers exist in the Lune and Ribble catchments. The River Lune had the second highest rod catch of salmon in England and Wales in 1998, and the Ribble was also in the top five rivers. Coarse fishing opportunities are extensive with numerous stillwaters and the Leeds and Liverpool and Lancaster canals. Riverine coarse fisheries are also improving particularly the River Ribble. Fisheries activities therefore entail significant antipoaching work as well as emergency response to pollution incidents and also significant fisheries management and advice.

The South Area has areas of high population with many excellent river and stillwater coarse fisheries but these can be subject to sporadic pollution incidents and our staff have to react quickly. They also are heavily involved in fisheries management, fish transfers, surveys and advice as well as licence enforcement.

FISHERIES ACTIVITIES NW REGION 1998/9



♦ SOUTH AREA

WEST TEAM

In 1998 water levels were generally higher than in previous years, with only the odd month with a lower than average rainfall. On one occasion the River Dane breached its banks and caused the Agency's fisheries depot to be flooded. The higher than average rainfall resulted in aeration equipment not being used as frequently as in previous years. However, 67 reported fish kills or pollution incidents were attended.

There were 4218 rod licences checked with 298 rod licence offences reported. 28 byelaw offences were also detected along with one successful prosecution under Section 1 of the Salmon and Freshwater Fisheries Act. 15 fyke net patrols were carried out and 4 illegal nets were found and seized. This is a reduction from previous years.

On and off-shore patrols resulted in a total of 15 nets and 2 set lines being found on the Wirral at Liverpool beaches. Local trawlers were checked at sea and catches examined. These activities seem to be acting as a very good deterrent.

The number of Agency reared fish stocked in to local rivers was lower than year compared to previous years, as high water levels in the rivers prevented successful stocking. 23,000 chub and roach from Leyland Hatchery were put in to 5 rivers. There were 22 other fish transfers mainly the result of the 21 still water surveys. In addition there were 3 surveys for the Still Water Group.

Fyke nets were placed in the Weston Canal along side I.C.I. Runcorn and eels, perch, flat fish, roach and sticklebacks were caught, where previously no fish were thought to exist. A more extensive survey is going to be carried out in 1999, including other rivers that are also thought to be devoid of any fish.

EAST TEAM

The wet and windy weather continued through much of 1998 with temperatures fluctuating and being on the low side. Low water temperatures and high flows made sport very patchy with match weights and pleasure catches being below average compared to previous years.
Pollution and fish kills were slightly down on last year, thirty five fish moralities were reported and attended. 4,278 fish were killed. The largest single kill was at Broad Oak Lodge, Bury, where 3,500 mixed coarse fish perished.

Sixteen fish rescues were carried out for a variety of reasons ranging from canal drain downs prior to repair work, to the more permanent draining to build on the site. A total of 40,968 fish were rescued. The largest single rescue was at Palace Road, Ashton-under-Lyne, where 27,849 mixed coarse fish were rescued prior to development of the site.

Twenty two fish transfers were carried out on behalf of angling clubs, a total of 70,670 fish were transferred into still waters. Over 40,000 chub and dace were stocked into Area rivers from the Agency's Hatchery at Leyland. These are done as part of a rolling programme supporting water quality improvement.

A total of 59 surveys were carried out, 39 of these were strategic surveys on rivers, 29 reactive surveys were carried out on behalf of angling club requests.

Enforcement: 4,563 anglers were challenged for licences during 1998 resulting in 263 offences being reported.

Some commercial fisheries are stocking newly dug waters with extremely high densities of fish in an attempt to attract as many customers as possible. Match weights can exceed 100lbs and pleasure anglers' catches are also very high. The fisheries are most certainly very popular with anglers to the extent that some clubs are being encouraged by their members to increase their stocking levels. However, anglers are telephoning the Agency in increasing numbers to complain about the amount of damaged, diseased and dead fish floating in some of these waters. Agency staff are spending time taking samples and submitting them to our Fish Disease Laboratory. In nearly all the mortality cases there has been no disease. The results show the fish to be very stressed, under-nourished and damaged due to continued handling. The fish are very heavily loaded with parasites and bacteria as their immune system is very low due to the conditions they are living in.

There is increasing concern about the effect that these practices have on fish welfare and attitudes towards angling.

♦ NORTH AREA

SOUTH LAKES

The weather in 1998 was poor. However salmon fishing experienced a big improvement on the last few drought affected years. Anglers in pursuit of the hallowed beast were well rewarded on most rivers in the area especially the Kent which as expected gave much the best all round sport. Spring fish were however virtually non-existent on all rivers and it

was mainly summer grilse that provided the bulk of the fish. The Leven and Crake did not fair as well as the other rivers for both salmon and sea trout, and indeed the former had the worst catch recorded for many years. Sea trout catches were generally down on recent years although the Duddon continues to show some improvements. Still water fisheries did suffer at the hands of cold wet weather obviously putting many anglers off fishing and this is the main reason that the total number of licence checks is down on the previous year. River levels were generally high throughout the year even producing massive spates at times including one on the 3rd of August which burst the banks of the Duddon causing major hold ups at Duddon bridge and the road was closed for 5 hours

Enforcement work began with the monitoring of the elver dip netsmen. The price of elvers rose to record levels of around £280/kilo. Despite many rumours of rogue netsmen roaming about all over the countryside, catches were rather poor, and the price later dropped to around £70/kilo and consequently fishing activity declined. Poaching activity was not great this year although several very persistent and troublesome juveniles were caught numerous times and warned. Eventually after formal cautions they were prosecuted for offences ranging from fishing without a licence to using a light and a snatch during the hours of darkness. These offences were all committed on the River Kent in and around Kendal.

Offences committed against sea fisheries legislation were also successfully taken to Court concerning foul hooking around the Arnside area of the Kent estuary and one netting incident at Winster Foot.

The bass fishery in Morecambe Bay again showed a decline for the second year running and some fishermen from the Askam area have packed in altogether.

Habitat improvement work during 1998 received enthusiastic commitment from all the Bailiffs, and many good schemes were completed. Joint schemes of mainly fencing work were carried out with other bodies such as National Trust, Windermere and District Angling Association, land owners and tenants. Many more schemes have been identified and targeted for 1999.

This back end produced a good spawning pattern for migratory fish in most rivers with the exception of the Leven again, which mirrored the rod catch statistics. The Crake actually fared better than many people predicted although many fish must have entered the system very late.

Otters continue to pop up in the south lakes area, spraints found mainly on the Leven and Crake catchments.

NORTH CUMBRIA

Throughout the year the almost constant rain has meant that the River Eden has had near ideal fishing conditions. Despite this, rod catches have in general been very poor. There was no period during the year that fisheries staff felt that there was a good number of fish in the river. The normally large run after the close of the angling season failed to materialise.

High flows made accurate redd counts very difficult but from areas where counts were possible they were again poor.

The River Caldew seemed to have a better run than the main River Eden with 1106 salmon and 117 sea trout caught in the trap. This may be explained by the frequent spates in the Caldew catchment which did not affect the main Eden to the same extent.

Haaf net catches were even poorer than rod catches, although this is normally the case during years of high flows.

Catches of coarse fish during the winter period have been dominated by grayling that by all accounts are now present throughout the Eden in good numbers and in all age classes.

Chub and dace have been caught but seem to be recovering at a slower rate than the grayling. High flows during the spawning period may be having a greater effect although as with grayling a variety of age classes have been caught.

From what little information we have on trout catches it seems to have been an average season, fisheries staff are of the opinion that there are fewer trout anglers than there have been historically.

The Border Esk has faired better than the Eden with fairly good runs of salmon and grilse and a run of sea trout that is getting back towards the numbers of the late eighties. Again high flows have made redd counts almost impossible but the feeling from fisheries staff is that it has been a good spawning season.

The general lack of fish and high flows have resulted in very few poaching incidents with only minor cases reported from the Border Esk, the high flows during spawning season made it almost impossible to poach during this normally active period.

WEST CUMBRIA

General

River levels throughout the year were high and although this must be favourable to fish the fluctuating levels made it difficult for anglers.

The River Derwent produced good catches and multi-sea winter fish appeared in significant numbers. Overall catches have greatly improved on the previous three years. On 13th September two anglers fishing a Castle Fisheries beat caught 15 grilse, 9 of which were released.

Stocking

During May approximately 50,000 salmon fry were stocked in the River Cocker catchment. These fish had become available due to modifications of a Derwent Owners juvenile stock rearing venture. A further 17,800 fry were transferred to Borrowdale for on-rearing to smolts as part of the same initiative.

Microtagged smolts were released into the River Derwent. These fish (9,000) had been "reared on" at Borrowdale by Mr. Stan Edmondson on behalf of Derwent Owners Association. School children from Flimby, Workington, assisted Fisheries Officers and greatly enjoyed releasing the young salmon. A further 1500 untagged smolts were released later in April.

Enforcement

Salmon drift netsmen operating out of Workington were "bought out" for the season by angling interests on the River Derwent. Increased enforcement failed to detect anyone filling the vacuum.

During November Fisheries Officers detected and reported nine men fishing illegally using fixed monofilament gill nets on beaches near Maryport.

Boat patrols in tidal waters resulted in illegal mono-gill nets measuring 600 metres being seized close to the mouth of the River Derwent. High river levels have helped deter poaching in West Cumbria this year.

Coarse Fish

Bassenthwaite Lake is becoming a popular coarse fishery. Good bags of roach, perch and dace have been recorded. The pike fishing has been excellent with plenty of double figure fish being caught mainly on dead baits. The largest pike reported being caught was 31 lbs. in weight.

Habitat

Stock proof fencing has been erected on a number of degraded riverbanks. The works have been arranged by the National Trust, National Park and Derwent Owners Association with input from the Agency. There is a great amount of work to be done. Perhaps if funding could be secured a more centralised approach to organisation would be more productive. Derwent Owners Association are considering appointing a biologist with responsibility for habitat improvement schemes.

Spawning

High river levels made redd counting difficult on most spawning areas and impossible on the River Derwent below Bassenthwaite Lake. However, it is encouraging to report that the 1998 count shows a marked improvement on 1997.

A number of large spent trout and salmon were found dead on the River Cocker catchment. These fish showed signs of otters at work on the spawning areas – these fish had spawned so we are all enriched by the return of "Tarka" and friends.

SOUTH WEST CUMBRIA

The year began with low water conditions and reasonably fine weather and had all the signs of being another dry season.

April and May began to show a change and the river levels were at a good seasonal average. June brought a good rise and with it runs of sea trout and salmon. In the North West there is a saying among older anglers "up in June – never down" this proved to be largely correct.

The river levels were up and down but never below average, which meant that the anglers on all the rivers in the area were smiling for a change. Fishing on the Ehen and Calder especially was very good. Many anglers caught over ten migratory fish each with some anglers catching 40 plus salmon and 30 plus sea trout. The runs of fish were constant throughout the year, which made for good fishing. About 50% of fish caught were then released.

August brought some of the biggest floods for years. The rivers were in spate causing a great deal of damage to bridges, trees and the river banks. The most worrying factor was that spawning beds were devastated, gravel movement was colossal.

Survey work was carried out throughout the year on the Ehen and Calder as part of the build up to the Ehen and Calder Salmon Action Plan.

The constant high river levels meant that the poaching activity on the area was not as prolific as the previous year when low water levels prevailed. However, the usual customers showed up when the levels dropped away. Because of the local manning levels, operations used Bailiffs from other areas which proved to be effective in getting one case. More particularly, it showed that the use of Agency dogs could be extremely effective.

The spawning on the area began slightly late on some of the streams but what was noticeable was that the spawning areas on the main River Calder had moved because of the floods.

Fish transfers were carried out for Haig Anglers, moving fish from Standing Stones and Stanley Pond back to Mirehouse Pond, which had been reinstated as a fishery.

As a whole the year was very good for both anglers and fish.

♦ CENTRAL AREA

Enforcement and emergencies

1998 was a good year for the fish; it rained almost all year apart from a two week period in late September.

Rod and line catches were the best since 1993 and most anglers were reasonably happy.
There were excellent seatrout and grilse catches on both the Ribble and Lune but there was a marked lack of larger multi-sea winter fish even though a number were taken. It was heartening to see the number of fish being returned alive by anglers - in fact on the Ribble about 40% were returned, hopefully to spawn.

On the Lune, Tebay anglers had an excellent season, catching sealiced salmon from July onwards and the October fishing was the best for years. Several large brown trout were also taken in this area.

The agency introduced catch and release on its beats during September and October with a reduced ticket price of £6. As usual it was difficult to get a rod on Halton top beat! Most anglers accepted the ruling. There were, however, rumours of fish being returned dead and collected later. These remain unsubstantiated although two dead salmon were seized by the beat bailiff when found at the waters edge.

On the Ribble it was a similar story. The top club, Manchester Anglers, had fresh run salmon in July and August. Ribblesdale Anglers at Clitheroe had 50 grilse in one month, all of which were bars of silver. Once again the old adage 'if you get water you get fish', proved to be correct.

Grayling fishing seems to be going from strength to strength. The Hodder has consistently produced fish up to 2lb but the Ribble coarse anglers are regularly catching 1/2lb fish from Calder Foot to Preston. This must reflect good recruitment in 1995 and 1996 and the improved water quality in the lower river. Chub, barbel and roach have featured heavily in the coarse catches and even though sport can still be patchy, the river is becoming an excellent fishery once again.

The commercial salmon net fishery was affected by the constant high flows and many nets were affected by weed and other debris and the fact that the fish were not staying in the estuaries. Despite this, some nets caught more than in the previous two seasons so it was not all doom and gloom. The price of Lune salmon on Lancaster market in June 98 was £4.95 per lb.

The enforcement and emergencies team spent several periods of time cleaning up after major pollution incidents last year, especially on the Wyre catchment where farm slurry again proved to be a thorn in the fishery managers side. Modern farming techniques have a lot to answer for.

A major benefit for the team was the development and use of hydrogen peroxide in the fight to reduce the impact of organic pollutants. It was used by Agency fisheries staff on the canal at Addlington and then latterly by Agency fisheries staff and the Emergency Works Unit with great success. A member of the fisheries staff also put his brain into gear with great effect and developed a method of dispersing peroxide into water using an outboard motor. He received an award from the Agency's suggestion scheme panel.

The success of the spawning season was difficult to determine because of high river flows. The redd counts obtained did not reflect the numbers spawning. There was a large number of seatrout on the Hodder and good numbers of salmon at Tebay and above Stainforth Foss.

Quite a lot of time after Christmas was spent upgrading staff training and the offshore enforcement vessel to comply with new regulations.

The agency dog has received its annual assessment and is certificated for another year. The handler and dog spent a week with Lancashire Constabulary on an operation to combat rural crime. This received great acclaim in the local press.

Lune Report

Salmon

Generally a wet year with ample opportunity for fish to run. Beats in the lower and upper reaches had the best catches with fish tending to run straight through the middle reaches. The total known catch of salmon was approximately 1580 of which about 300 were returned to the river. Several fish of around 20lb were reported.

Sea Trout

There was a reasonable run of sea trout but water levels were often too high for good night fishing. Again, the best catches were reported from the lower and upper reaches. The Wenning and Hindburn had their usual run of fish. Nearly 1400 sea trout are known to have been caught including many returned to the river. Some anglers had returned their entire catch.
Seven sea trout were caught on the R Keer.

Brown Trout

Some good brown trout were taken with fish around 4lb reported from Tebay.

Trapping

Forge Weir

The Forge Trap was operated for most of the year on a weekly basis as part of the Sea Trout Project run by Dr G Harris.
A total of 197 sea trout were sampled. The first fish caught was a hen of 12lb. Several others in double figures were recorded. 128 salmon were caught and processed and some good fish of around 20lb were seen.

Broadraine

The Broadraine Trap was operated during the close season by the Lune and Wyre Middleton Hatchery Group and Agency staff in order to obtain salmon broodstock. 48 cocks and 41 hens were caught, of which 16 cocks and 7 hens were stolen when thieves broke into the trap. 31 cocks and 27 hens were returned to the river and approximately 67,000 ova obtained.

Re-stocking

Approximately 15,200 eyed salmon ova were equally divided between Rampsholme Beck and Tebay Gill Beck.

A further 6500 eyed ova were despatched to a hatchery in Wales on behalf of the R Wyre. The remaining ova from the 1997 stripping was developed for the Middleton Hatchery Group. Subsequently, the following re-stocking was carried out:

0+ salmon fry:
Borrow Beck - 8000
Birk Beck - 4000
Barbon Beck - 7000
R Lune below Newbiggin - 7000
R Lune below Yorkshire Bridge - 7000
R Hindburn below Wray - 3000
Total 36000

It is also expected that 20000 pre-smolts will be introduced to the Lune system in the spring of 1999.

- 1250 dace stocked into R. Lune at Lansil.

Spawning Season

Owing to constant floods the redd counting on the Lune was difficult. Unfortunately, a huge flood on the 6th January 1999 caused a great deal of gravel movement and many redds may have been swept away. On the R Keer, 54 sea trout redds were counted by Mrs L Renshaw on behalf of Carnforth Anglers.

Habitat Improvement

The Lune and Wyre Habitat Group, with Agency support, and groups of volunteers, have completed some 8 miles of fencing - mostly in the Tebay area and have planted a total of 4000 trees in the Tebay, Bentham and Ingleton areas. In addition, the Agency funded 1450 metres of fencing on the R Keer.

Two miles of spawning ground on the upper Lune are badly affected by Rununculus, (Water Crowfoot), and the Habitat Group and volunteers created channels and pulled weed from the spawning sites.
It is planned to use a suitable herbicide in the following spring on extended spawning ground.
If properly controlled this weed will be of great benefit to juvenile salmonids.

The Off River Spawning Unit, (ORSU), has been completed on the lower end of the Lune in collaboration with Tebay AC as part of this project. (See section on Central Area Projects for further details). Artificial fish spawning substrate was added to the river at Lansil.

Surveys and Rescues

- Austwick beck electrofishing survey and report.
- Fish rescue Moor Park, 200 large carp and 2500 roach, rudd and small carp transferred to Middleton pond.

Hodder, Upper Ribble and Lune Tributaries

General River Conditions/Fish Movement

Very wet conditions throughout the period enabled fish to move up the river systems almost at will. Large numbers of sea trout have been observed at key locations on Wenning and Hindburn. Fish seen below Footholme Intake on the River Dunsop could again be seen to struggle to ascend the structure. There are proposals to resolve this problem by putting a fish pass in place and other fish easements on Hodder tributaries, Brennand, Dunsop, Langden and Losterdale. Discussions are taking place with NWW Ltd.

Redd counting was carried out on Rawthey, Clough, Hindburn, Dee and Keld during the last three months of the year with fair numbers of salmon and sea trout Redds found.

Fisheries Habitat

Habitat advice has been given to Ingleton Anglers, Hindburn Trust and R. Challenor for North West Water Authority. A large collaborative tree planting on the River Hodder was carried out at Burholme Farm, Dunsop Bridge, between Environment Agency and Ribble Valley Borough Council, with over a 1,000 trees being planted.
In the Lune area, three Agency staff took part in a sponsored walk and raised £233 for the Lune and Wyre Habitat and Hatchery fund.

Meetings/Planning .

Regular monthly meetings have taken place between the Agency and Lune and Wyre Habitat Group as well as the newly formed Ribble Trust, enabling each group to identify priority areas for targeting future habitat work, plus input to the raising of funds via grants.

A site meeting was held on the River Dunsop between Agency and North West Water Ltd to discuss improving the passage of migratory fish on Brennand, Whitendale, Langden and Losterdale. It is to be hoped that during the coming year we can see developments.

Electric-fishing Survey

The five year (quinqennial) survey of Ribble and Hodder began in July and ended in October due to the high flows in the catchment. In general results were good but on the River Loud above Loudscales Weir once again the result was poor with only 6 trout being found, this being an area that had previously been stocked.

Fish rescue - R. Ribble

2300 rudd rescued from pond at Ulness Walton.

R Douglas Catchment Review

The river Douglas still has a reputation for being a polluted river. However, the few who fish the river have had success in catching Chub, Roach and Dace along with Perch and Gudgeon. The best areas seem to be around the Appley Bridge and Gathurst where the river has good habitat and a meandering nature. This is the area most fished by anglers using both pole and running line methods. Fish are mostly small, in the 3-4 inch range (probably from the Agency's stocking programme) but other larger specimens have been reported. Large chub have been observed downstream of Appley Bridge. The river Douglas in the Poolstock area of Wigan is fished on a regular basis and anglers have had success catching Chub and Roach, albeit in small numbers. The river Yarrow upstream of Croston Weir has been fished on an infrequent basis with anglers catching small numbers of chub, roach and dace. It has been reported that the weir-pool holds a small number of barbel and that salmonids have been seen jumping at the impassable weir. A site visit confirmed a report that, further upstream, at Birkacre Weir, trout were seen to be jumping at the base of this large, impassable weir.

The river Lostock, for the most part, is not fished by anglers. However, fish have been seen in small numbers near to Leyland fish farm and just upstream of the sewage treatment works. At mill lane, small isolated shoals of fish can be seen frequently. However, the weir in Farrington is a major limiting factor to the distribution of coarse fish in the Lostock. Species include Chub and Roach. The river Tawd, north of Skelmersdale, now has a population of roach in the vicinity of Tawd Vale Country Park. This is a result of the Agency's stocking programme.

The base flows in the rivers have been dependant upon compensation flows released from Rivington and Anglezark reservoirs. However, due to lots of rain, base flows have been rare. For most of the financial year 1998~99, all rivers have carried flood

waters and during the months of January and February and have been very high. At one point, the river Lostock downstream of Croston flooded a field. All rivers had a high sediment load, even after small amounts of precipitation. This is indicative of the high amounts of bank erosion and land runoff. During periods of low water, the rivers soon clear.

A major habitat improvement scheme was initiated on the rivers Douglas and Yarrow. Approximately 490m of fencing and 790m of planting work (willow, oak, ash, hawthorn, holly) were planted downstream of Eccleston bridge, Eccleston and 520m of fencing and 730m of planting work was carried out upstream of Grimeford Bridge, near Horwich. This work was conducted to help stabilise the rapidly eroding banks and provide habitat for the resident fish stocks (which the Agency stocks as part of its stocking programme).

Predation on the rivers was minimal. Very few avian piscivours were seen apart from on larger lakes in the Wigan area. Scotmans and Pearsons flash had five cormorants on one day in December during a site visit but more have been reported on a regular basis between November and March. Red Ponds also had two cormorants during a site visit, again with more reported throughout the winter months.

The Leeds-Liverpool canal in the Appley Bridge area is fished on a regular basis and anglers have success with pole fished maggots/casters/bread. They regularly catch small roach, perch and small bream. In the Burscough area, matches are regularly held and highly productive with roach reaching over the pound mark.

Fylde Area Report

1998 was a very wet year. Large spates in April and the autumn caused erosion and disruption of spawning gravel. Coarse fish fry may also have suffered. The wet year improved game fishing and provided more salmonid habitat. An increase is expected in juvenile salmonid production as a result.

There has been an increase in predation. Cormorants are fishing most of the larger still waters and the river. There has been an increase in the gooseander population; they have spread from the river and still waters to the canal. There are many mink on the lower river Wyre, from Scorton upstream they are better controlled. Water voles have not been seen on the R. Wyre this year. In the early 1980's they were seen regularly from Chuchtown down stream.

The coarse fishing was patchy mainly due to the changeable weather. Bags of 40+ small chub were seen below Churchtown.

There was an improvement in salmonid catches, with around 50 seatrout and 20 salmon being caught. The redd counts for seatrout were good but the salmon count was disappointing. Good numbers of brown trout were seen spawning. There is a healthy population of wild trout in the upper R. Wyre and a large number of trout were stocked.

Chub and roach were seen spawning on the lower Wyre in May 1998 and good shoals of coarse fish fry were seen in June.

Surveys

- Electrofishing surveys were carried out on Cam beck, R. Cocker, Wyre spawning gravel improvement sites and the drought order sites. Good numbers of salmon parr were found in the lower R. Calder. On the R. Cocker trout were only found in the upstream site.
- A hydroacoustic survey was conducted on Presall Flash for coarse fish assessment.
- pH levels were surveyed throughout the Wyre catchment in order to assess the level of improvement after a trial introduction of limestone gravel on Cam beck.
- A thorough redd count was completed.

Fish rescues and transfers.

- 2 Pike were removed from College farm pit Thornton Cleveleys and stocked into Wyreside Fishery as part of an emergency fish rescue.
- 201 Perch were trapped from Serendipity pond in Blackpool and stocked into the Leeds-Liverpool Canal.
- 32 carp, 4 tench and 350 roach were transferred from Oakenclough lodge to Caldervale lodge.

Fish disease and mortalities

Fish samples were taken from Foxhouses Lake where an infestation of *Argulus sp.* was found. Fish samples were also taken from Pump Pit Freckleton where bird damage was observed.

Fisheries advice

Advice was given to 8 fishery owners/angling clubs and 7 site visits were made.

Habitat work

- Habitat assessments were made on R. Wyre.
- Flood damage was repaired on Joshua's beck at the gravel addition sites.
- Abbeystead fish pass was unblocked on numerous visits; a new board was fitted into Churchtown fish pass.
- Hannington Clough fish passes were unblocked.
- Boards were replaced on fish easements and a fish easement was built on Park Beck.
- A blockage was removed from Foxhouses beck and willows planted on the erosion scars.
- Willow pollarding and raddling was started on R. Wyre.
- 300m of fencing and tree planting were undertaken at the R. Wyre at Scorton,.
- **Meetings**
- Agency officers regularly attended meetings of the Wyre Salmon Restoration Group.
- Meetings were also undertaken with Lancaster City Council concerning Marshaw Wyre footpath.
- Several meetings were held with Blackpool Borough Council regarding an urban fisheries development project on Stanley Park Lake. The lake is thought to be leaking and effort has been expended in trying to identify a potential solution.

Consultations

- Angling clubs in the Wyre catchment have been consulted regarding a proposed fish pass on the River Brock and also about the possibility of a canoe access trail on the lower R Wyre. So far, the clubs have not even agreed to discuss any canoe access.

River Alt/Crossens Catchment Overview 1998

The Alt|

Fish populations.

An increasing number of reports and requests for information are being received regarding the River Alt as a coarse fishery. Isolated catches of roach have been reported mainly from the Downholland Brook system but also from the main Alt in the Maghull area. This information coupled with a small fish kill on the lower Alt in June suggests that fish populations are becoming more widespread.
The Agency stocked the River in November with 3000 dace to Downholland Brook and 1500 roach to the main river in and immediately downstream of Croxteth Park.

Habitat enhancement.

Sections of the river system have been viewed with regard to their suitability for future works.
Joint schemes with Alt 2000 are likely to commence next year.

Crossens drainage system

Some good mixed catches have been taken this year although the quality of fishing does not reach the highs of the 1970s

A collaborative project to install platforms for disabled anglers near the Crossens pumping station was progressed.

Leeds & Liverpool Canal

Survey

A short survey carried out in February demonstrated the presence of some excellent fish stocks at Maghull with lesser stocks in Melling and Waddicar. The fish were very tightly shoaled but a good average stock level was found at the sites surveyed. The survey also highlighted a lack of spawning substrate in certain areas. Following discussions with Liverpool & District Anglers and British Waterways a weed management strategy was agreed which included the introduction of artificial spawning substrate by the angling club as a short term measure.

Catches

Roach and rudd catches on the canal centred around the Maghull area were excellent, with bream and tench starting to show in good numbers as well. Match records were beaten this year as the canal came back on form. The Agency introduced fish to the canal at Melling following the drain down of Ibstock Quarry lake at Upholland during April.

Other Stillwaters:

White Mans Dam

Following site visits and discussions with the anglers an action plan was developed to help improve the

fish stocks and fisheries habitat on this very large lake. The plan was further discussed at the clubs AGM and the members have already implemented some of the recommendations.

Platts Lane Lake, Burscough

The lake was netted during March and a water sample was analysed. The results indicated a very healthy fishery existed although some recommendations for the improvement of fishery habitat were made in the subsequent report.

North Moss Pit, Formby

A spring carp mortality was investigated during April

SELECTED PROJECTS AND SURVEY REPORTS 1998

PROJECTS

♦ Introduction

The projects following are a selection of those undertaken in 1998. They represent examples of how we implement the Agency's duty to maintain, improve and develop fisheries.

NORTH AREA

♦ River Eden Spring Salmon Radiotracking Project

Introduction

Atlantic salmon stocks are declining across most of their international range and in many cases the largest decline is in the spring or early run component. On the Eden the salmon population on the whole has been doing well, especially when compared to the declines elsewhere, but there has been a shift in the run timing of the population. Historically the Eden was renowned for its early running MSW salmon whereas in recent years the catch has been predominately made up of late running grilse. The fisheries community have welcomed the overall recovery of the Eden salmon population and enjoyed the late running grilse but the reduction in the spring component is disappointing.

The Eden has been proposed as a site of both National and European importance for the Atlantic salmon. Nationally it is designated as a Site of Special Scientific Interest and it is proposed to be a Special Area of Conservation under European designation. It is therefore critical that everything is done to maintain the population both in terms of size and diversity.

The Agency and other partners have committed funds to run a radiotracking project in the Eden catchment. The project has been set up and will run during 1999 and 2000 and a Project Officer was employed early in 1999. There has been a lot of support for this work from interested parties and so far funds have been promised from English Nature, The Eden Owners Association, The Eden Rivers Trust, the River Eden and District Fisheries Association *. The budget for this project is £68,000 over 3 financial years. The Agency will be contributing £40,000 plus a considerable time input from our existing staff which will mean adjusting work priorities. Costs have been kept to a [1]minimum by making use of the equipment from other Agency Regions. We believe information about spawning location is essential to the sound management of the river.

Aim

The main aim of the radio-tracking study is to locate where spring fish spawn within the catchment. The study will also determine if the fish spawning in a river or tributary are purely spring fish or a mixture of spring, summer or autumn fish. The information is necessary to establish how important different parts of the catchment are for different components of the run. This will require radio-tagging fish throughout the year.

Use of the information

The information about spawning behaviour is essential to guide management and will be actively used as part of the management process. It could, for example, be used to:

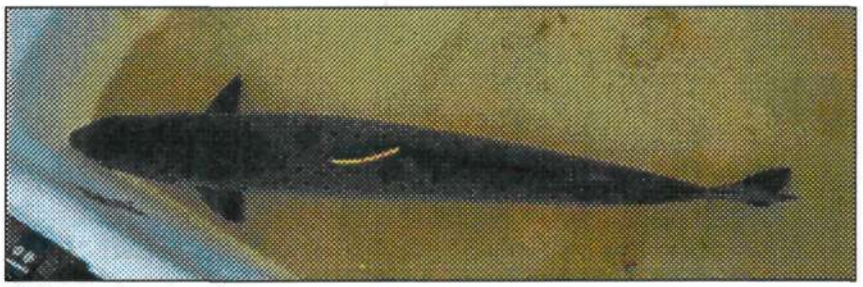
- Target habitat enhancement work which could include fencing work gravel improvements, provision of in-river structures, for example to deepen water to advantage parr survival and for other habitat options as appropriate.
- Provide informed input to the debate on stocking options
- Target fish passes to remove barriers to migration if appropriate
- Target enforcement work to protect fish from poachers
- Consider appropriate restrictions on any applications for, or reviews of, abstraction or discharge licences, land drainage consents and planning applications.

** At the time of writing this, funds have also been promised or received from Carlisle Anglers, the Atlantic Salmon Trust, and The Solway Rural Initiative*

Corby Coops Spring 1999

Materials and Methods

Fish will be caught with nets and by trapping and there may be possibilities to use fish caught by angling. Using a tried and tested method, a radio-tag will be inserted via the mouth into the stomach of the anaesthetised fish and the fish will also be marked with an external tag or mark. (Note that the stomach is no longer used by salmon in freshwater so radiotags do not interfere with the fish and if fish return to sea the tag is regurgitated and the fish are



Salmon showing floy tag

able to feed again.) After recovery from the anaesthetic the fish will be released back into the river. It is planned to tag at least 100 during 1999. Capture of healthy viable fish is the most important, and often the most difficult, part of radiotracking projects and so precise monthly numbers can't be planned. The tags contain batteries, which are designed to last over 12 months.

A network of listening stations will be established to cover the Eden. These stations scan the frequencies of the radiotags and they record the date and time when individual tags are detected. The range over which tags are detected varies according to the siting of the station but is typically up to 500m although depth, turbidity and line of sight can reduce this.

Type of results expected

Other radio-tracking projects have retained contact with approx. 50% of salmon up to spawning time, the losses being predominantly due to regurgitation, mortality, capture and difficulty in relocating fish in large geographical areas: the Eden would be nearly 2300km2.

We would expect to have similar results, in this respect, to other work and so would expect to have good data from approximately 50 fish.
Our data would consist of dates, times and locations for fish throughout the season and ultimately a date and time at the spawning location or nearby.

Data recorded as individual fish migrate up the river will also provide information about how long they take, where they spend a lot of time, whether any structures are significant obstacles, whether certain flows are best for moving upstream or for moving over certain structures etc.
Such information will be secondary to the aims of the project but might be extremely useful, especially if it varies for different components of the run.

Releasing and reporting capture of tagged fish

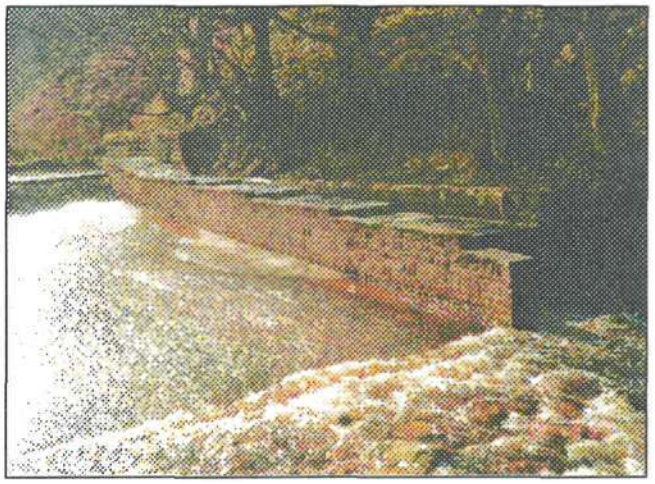
Obviously the output from this project will be greatly improved if anglers return any externally tagged fish they catch so the fish can progress on to their spawning grounds. It would also help if anglers report the details of any tagged fish captures to us as quickly as possible. Publicity relating to this with phone numbers will be produced and widely distributed.

Genetics

Genetic questions relating to Eden salmon will not be answered by this project and a robust study would be too costly. However current information suggests that the cost of genetic analysis is likely to drop in the future and we envisage using the data obtained in the radio-tracking study to target any genetic study which may be able to be funded in the future.

♦ Gelt Fish Pass 1998

The fish pass was constructed around the NWW Ltd abstraction point on New water that is the major tributary of the River Gelt.
The construction of the pass was made possible only after detailed negotiations between the water resources function and NWW Ltd.
Migratory fish now have access to several kilometres of spawning area that was previously denied them. In addition, the pass provides a downstream migration route for smolts and brown trout.



River Gelt Fish Pass

The River Gelt is a major salmonid rearing stream. The opening up of additional rearing area within this system will result in increased production.

♦ Scottish Devolution

The Scotland Act was given Royal Assent at the end of 1998. As fisheries is devolved to the Scottish Parliament this created the possibility that the Esk catchment would be managed partly as a Scottish river and partly as an English river. The Act however contained a provision that enabled the fishery in the catchment to be run as a unit controlled by secondary legislation. This legislation requires the approval of the Scottish and the Westminster parliaments before any changes can be implemented.

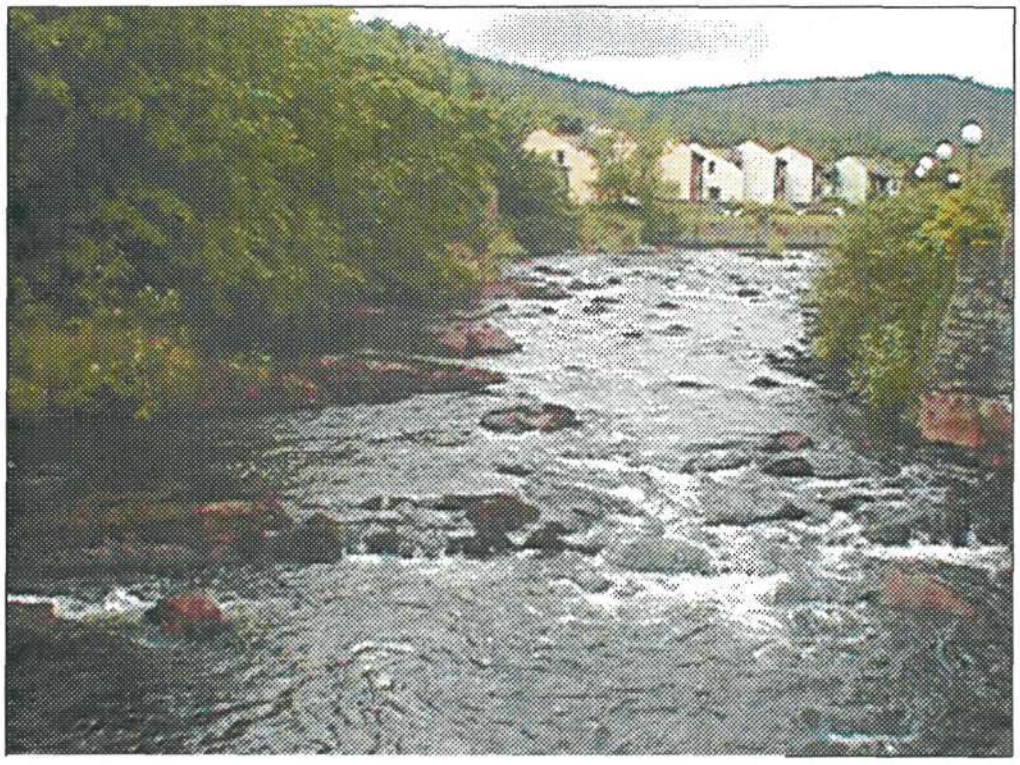
At present it is intended that the Environment Agency remain the fisheries regulator for the catchment which has been extended to include all of the River Sark catchment which joins the Esk in tidal waters.
Enabling secondary legislation in the form of an Order in Council is expected to be in place around mid 1999. Although it will deal primarily with the Esk it is also expected to contain provisions for the Solway.

It is important to note that new regulations affecting the Esk, e.g. Byelaws, will need to be approved in Edinburgh and Westminster and this aspect will need to be recognised each time alterations are proposed.

The Leven Estuary Project

The Leven Estuary Project was initiated in 1995 by the Agency's predecessor, the National Rivers Authority, in response to concerns over the effects of consented discharges within the Leven Estuary (South Cumbria). This was part of a larger project investigating bathing water quality. The purpose of the fisheries component of the project was to ascertain to what extent, if any, the discharges were having on the behaviour of migratory fish populations as they passed through the estuary. In order to determine when and where the fish were migrating acoustic tracking methods were used within the estuary and radio telemetry techniques were employed for freshwater tracking. This involved inserting a transmitter into the stomach of the fish that emits a pulsed radio signal that is subsequently detected by listening stations based on the shores of the estuary or riverbanks. Each fish was fitted with a tag that had a different pulse rate and radio frequency allowing the identification of individual fish as they passed through the estuary and into freshwater.

During the summer months of 1995, 1996 and 1997 the project team was accompanied by two experienced lave netsmen who were able to provide valuable advice on the locations where fish could be caught in the estuary. Further advice on safety while working in the estuary was also given by one of the netsmen, who was also the guide for crossing the estuary sand flats during low water. This enabled the effective targeting of likely areas for catching and tagging salmon and sea trout. Netting operations took place at various locations within the estuary and a variety of methods were employed at different tidal states. Two of the most productive areas were around the Leven Viaduct and a little further down the estuary on its right-bank at Plumpton Beach. The success rate of fish tagged within the estuary in migrating to freshwater has been highlighted as a significantly lower than in other similar studies (range 10% to 29%). Migration patterns within the estuary appear to show movement throughout the estuary at all states of tide with the exception of the area close to the discharges where no fish were detected throughout the project suggesting that they are avoiding this area. Time of travel to freshwater post-tagging varied significantly, ranging from seven days to seventy-six days and appeared to be correlated to a certain extent with the next increase in freshwater flows after tagging. Freshwater tracking has shown fish movement (both up and downstream) to be linked to freshwater flow. The final year of the project, when freshwater migration was investigated in greater detail, showed fish holding in the lower River Leven with a proportion of fish migrating out of the system for periods of up to 79 days in one

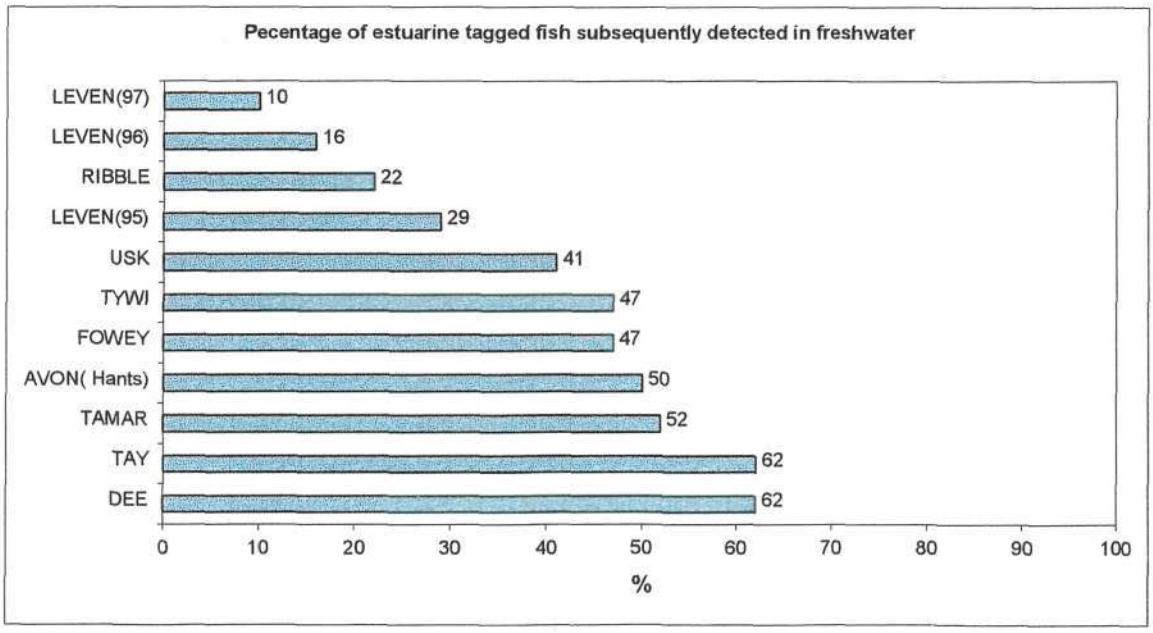


River Leven

instance. The destination of these fish is unclear, although from tracking observations that detected fish around the lower reaches of other rivers (such as Rusland Pool), it appears they are entering other tributaries of the Leven Estuary. In one instance a 14lb salmon tagged in the lower River Leven left after four weeks to migrate and spawn in the River Crake downstream of Coniston. A separate fish fell victim to a mink on the middle reaches of the River Leven and its radio tag was recovered from the minks den along with fish scales and eggs – it is unclear whether this fish had successfully spawned before it became lunch.

Although the results did not show whether the discharges were affecting the migration of salmon and sea trout through the estuary they did show a significantly lower rate of fish entering freshwater than in other studies. During 1998 when weather and consequently river conditions were favourable for angling during much of the season neighbouring rivers saw a noticeable increase in rod catches. This however, was not the case for rivers entering the Leven Estuary where declared rod catches remain depressed.

The Agency is keen to continue to investigate the reasons for the poor performance of the fishery. Among many lines of enquiry we are consulting externally with industries, discharges from which cannot currently be eliminated from the list of influencing factors.



♦ Leven Smolt Trapping and Tagging in 1998

A smolt trap was installed on the Leven in the Low Wood headrace in the spring of 1998 as in previous years. It is a partial river trap. 674 salmon and 27 sea trout smolts were caught of which 513 salmon smolts were subsequently microtagged .

♦ Leven Salmon Action Plan

The final Leven Salmon Action Plan was produced in March 1998 and a meeting with those who responded to the consultation document was held in October 1998. A Project Officer was appointed in April 1999 and she will take the identified actions forward in 1999.

♦ River Crake Bed Sediment Study

Following a study of in-situ sea trout ova survival in the River Crake last year, freeze core samples of the spawning gravel were taken and results indicate an unusual sediment distribution within the core. Further work to identify sediment inputs is underway.

♦ Habitat Projects in South Cumbria

The Agency has worked with landowners and fisheries interests in the Ehen, Duddon, Crake, Leven and Kent catchments to improve riverine habitat. Many of the projects have involved fencing to improve bank stabilisation and vegetative cover and/or creation of habitat diversity through boulder placement and bankside holding areas.

♦ River Lowther Enhancement

As part of a programme of progressive environmental enhancement in the catchment, monitoring of the trial fish screens on Keld Gill, led to the conclusion that the screens at the water supply intake were only required to be in place from March to May inclusive. The purpose of the screens is to prevent the ingress of juvenile salmon and trout.

Negotiations with North West Water are now being focused on the larger tributaries in the catchment where current screening arrangements and residual flows are considered to be inadequate. This links to the North West Water Ltd capital programme, Asset Management Plan 3 (AMP3) process.

It is hoped to address the needs of at least one major tributary in the next few years.

♦ River Calder

The Agency sits on the Calder Conservancy Committee together with representatives from riparian and fisheries interests and BNFL. A study commissioned by the Committee and paid for by BNFL was undertaken during 1998 to determine ways of improving the natural salmonid productivity of the river. This study has now reported with recommendations centred on reducing erosion particularly in the upper catchment. The committee is exploring ways of taking these recommendations forward.

♦ North Area Public Fisheries Seminar 1998

The North Area Seminar held at Newton Rigg College was held in March.. Over 150 people attended the full day session. The day was well chaired by Andrew Quinn and the six speakers came from across the country. The talks were:-

- Stock Management and Gene Pools in Salmonid Fish by Alan Pickering of IFE
- Factors Affecting Salmon at Sea by Guy Mawle, (Agency)
- Sustainable River Management by Elaine Fisher, (Agency)
- Weed Control – Still Water Fishery Management by Paul Curry, (Agency)
- Assessment of Cormorant Depredation on Still Water Coarse Fish Populations by Roger Sweeting, (Agency)
- Synthetic Pyrethroids by Ian Warner, (Agency)

There were also displays which covered the various types of fish tags, fish scales and scale reader, the sustainable rivers project and one about synthetic pyrethroids. There was a display of taxidermy by Peter Scott, one of our Fisheries Officers.

We invited feedback through a questionnaire and this confirmed that everyone had had an enjoyable day and had felt that they had learned something new. Many positive comments were also made about the seminar, the opportunity it gave for angling interests from across the county to meet with each other and with the Agency staff.

♦ The Drought Order Monitoring Project, NW Region, North Area.

Background

During the droughts of 1995 and 1996 NWW Ltd successfully applied for drought orders on Lakes Ullswater and Windermere. Part of the conditions of these drought orders was the reduction in hands off /

compensation flows into the rivers that flowed out of the lakes (River's Eamont and Leven). The NRA drew up a case for the minimum acceptable compensation flows in the rivers for maintaining fisheries life. The actual drought order flows were initially set below the NRA recommendation, but were eventually raised up to and above them as the higher instream flow requirements of the fish became apparent. In 1996, the Environment Agency was advised that scientific arguments to defend any requested hands off/compensation flows would have to be sound. A lack of knowledge on this subject lead to the formation of a project group to look at the issues.

The Project

The project was set up, funded by Water Resources, and managed by Fisheries staff in September 1988. Two temporary employees were given the task of identifying methods for setting flow regimes for six rivers within Cumbria if they were to be the subject of a drought order. The rivers had been highlighted by North West Water as likely sources of increased abstraction, or reduced flow as a result of any drought orders. The Rivers were the Cocker, Dash Beck, Eamont, Ehen, Ellen and Leven.

Literature

The first few months have been spent reviewing literature to answer questions raised by the previous drought order period of 1995-1996 and to identify and evaluate any flow setting tools. Only four appropriate methods were found: Tennants, Frazers, Stewarts methods and pHABSIM. These each had shortcomings for the aims of the project and it became apparent that in order to protect the fishery interest of Cumbrian rivers, a new approach needed to be found. As an interim measure, the project officers set minimum flows for each of the rivers using the current best practices. These are to be subject to change following future work.

Monitoring

It is proposed by the project group that the best way of identifying the requirements of the fish species is to establish a baseline juvenile salmonid monitoring plan for the rivers. The surveys will be planned in 1999 for the affected rivers.

The migratory requirements of Atlantic salmon, *Salmo salar* and Sea trout, *Salmo trutta* were to be established by observing movement over fish counters and through traps at differing flows.

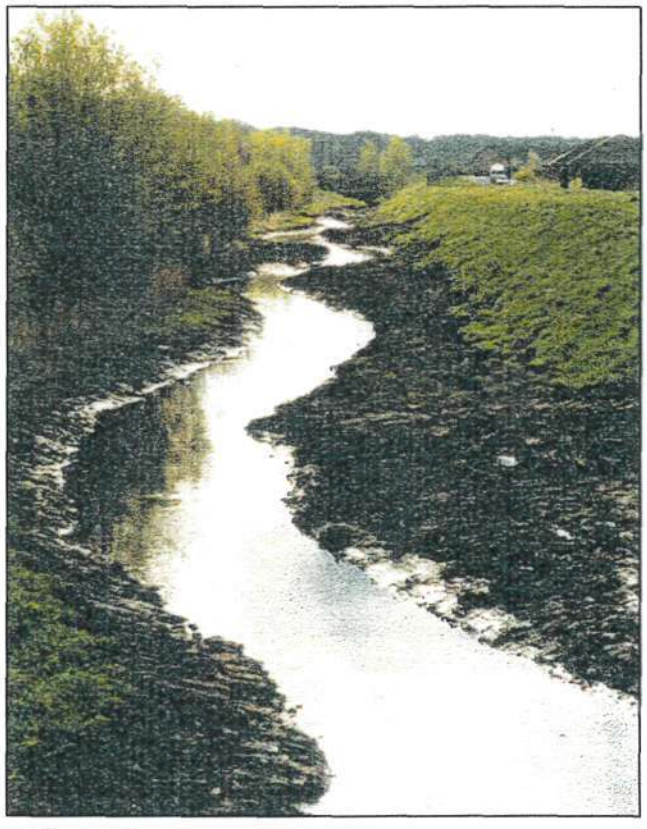
The monitoring will also cover species protected under the EC Habitat and Species directive.

CENTRAL AREA

♦ River Alt Rehabilitation Scheme, Croxteth

The River Alt rises in Huyton and flows 28km to its tidal limit at Hightown. The catchment area includes North Liverpool, Knowsley, Aughton and Ainsdale, falling within the scope of the Mersey basin campaign and Alt 2000 initiative.

Upstream of Maghull the river drains mainly urban and industrial areas, consequently the river has been



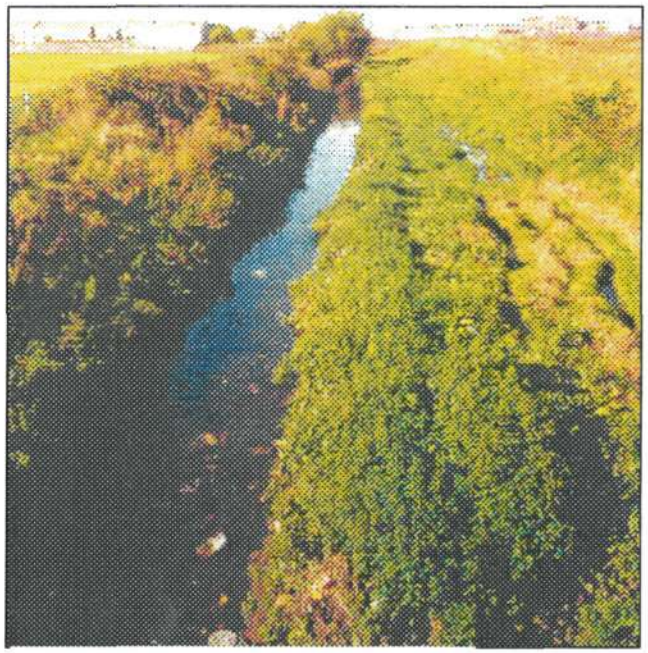
River Alt

substantially canalised over the years with flood defences being built over much of its length. It had also been straightened considerably, to cope with the increased surface water run-off from earlier urbanisation, giving it a constant width and depth, and consequently flow. Water quality problems are predominantly associated with wrong connections of foul drainage to the surface water system. As a result of this the Alt has been unable to support a sustainable fishery with little bio-diversity or habitat variety in the area.

As part of the Alt 2000 partnership, a Mersey Basin Campaign River Valley Initiative, the Environment Agency is undertaking extensive rehabilitation work on the Alt. Alt 2000 is a partnership of many public, private and voluntary organisations working to restore the river and its environment, by improving

water quality, the amenity of the area and encouraging wildlife.

This scheme has been developed to improve the habitat for fish, primarily, and increase the bio-diversity of the reach whilst maintaining the integrity



River Alt

of the flood defences. This was achieved by incorporating meanders, wetlands and riffle zones within the existing flood defence embankments. This included the creation of sections of varying widths, shallow, fast-flowing water and deeper slow-moving pools. The inclusion of riffles allows aeration, with deeper pools providing resting places for the fish. The disturbed areas were planted with native trees and aquatic plants that would provide cover, spawning material and food for fish and wildlife, with the assistance of the BTCV and local school children.

The works, particularly where school children were involved, have received coverage in the local press.

On the ecological side, various considerations were made when choosing suitable native trees and aquatic vegetation for the stretch.

1) Red Squirrels: there are a number of red squirrel populations in the Croxteth / Knowsley / Fazakerley areas of north Liverpool. The River Alt corridor has the potential both to provide a beneficial geographical link between these and to allow undesirable grey squirrel invasion. The following tree species were agreed with NPI Red Alert as being suitable for red squirrels whilst discouraging greys; Scots Pine (7), Yew (3), Hawthorn(55), Holly (19) and Willows (300 – comprising a mix of goat, common & crack).

2) Water Voles: the River Alt may have the potential to support water vole populations, and so native aquatic plants were chosen that are known to be used by water voles for food and cover. The aquatic plants planted, partly as a PR event by children from the local secondary school, were a mix of water plantain, marsh marigold, water-avens, yellow flag iris, ragged robin, purple loostrife, water mint, Norfolk reed and bulrush. Further planting will probably comprise some seeding and some plug-planting in spring 2000.

♦ Off River Spawning Unit (ORSU)

The coarse fish population on the river Lune has been in decline since the 1970's. The Environment Agency undertook a survey in March 1998 that indicated that the spawning habitat was lacking. Successful spawning is erratic, partly due to high water flows washing juvenile coarse fish into the estuary, with strong currents contributing to their difficulties. The Environment Agency is working in collaboration with Lancaster City Council and Lansil Sports and Social Club to rehabilitate spawning areas for coarse fish in the lower parts of the river. Natural weed beds were enhanced in 1998 with limited success.

The ORSU will increase coarse fish spawning habitats on the river Lune at Lancaster, providing a sheltered habitat for the spawning and rearing of

ORSU: Work begins alongside River Lune

juvenile dace and roach. It will also give shelter to adult fish in high water flows. Angling, however, is not permitted.

Completed ORSU June 1999

Other benefits of this project include the creation of a pond and wetland habitat. This will increase the bio-diversity of wildlife in the area and provide an attractive feature in the new River Lune Millennium Park. Marginal wetland plants such as Marsh marigold *(Caltha parustris)* and yellow flag iris *(Iris pseudacorus)* have been introduced with aquatic plants like water plantain *(Alisma plantago-aquatica)* and the oxygenating plant spiked water milfoil *(Myriophyllum spicatum)*.

Trees and shrubs have been planted to enhance the site, including rowan *(Sorbus aucuparia)*, silver birch*(Betula pendula)* and hawthorn (*Crataegus monogyna)*. These plants provide a valuable source of fish food and will encourage insect life. The hawthorn hedge, in conjunction with the flood defence bank, protects the pond from the debris carried in times of flood.

♦ Agency owned sites

The Agency owns and manages 6 sites for recreation in Central Area. During 1998, the Agency has reviewed its management and pricing structure for Agency fisheries on the rivers Lune and Ribble. Given the current international concern over the status of salmon stocks, the Agency instituted a catch and release policy for salmon on all of its fisheries from September 1999 and reduced its ticket prices accordingly. In addition, the Agency has continued to manage Pilling Lane Amenity Area for the benefit of the public through a contract with Wyre Borough Council.

♦ River Douglas Habitat Improvement Scheme 1998/99.

The Agency, in collaboration with local farmers, has funded two major habitat development projects in the region. The sites, one on the river Douglas at Grimeford (near Horwich) and one on the river Yarrow in Eccleston, should see a vast improvement in the quality of the habitat in the areas. One of the problems with the river Douglas catchment is the fact that most of the rivers in the area have been altered in some way, be it for agriculture, building work or flood defence. This has resulted in the loss of essential riparian vegetation at the cost of 'damaging' the river banks.

As much of the catchment consists of pastoral farmland, the high density of cattle has trampled many of the river banks destabilising them and removed much of the vegetation essential for healthy fish stocks. The project has seen the introduction of over 600 trees, mainly Willow, Oak, Ash and Hawthorn. To protect the juvenile trees, over 1000m of stock proof fencing has been erected to protect the trees from grazing cattle and help establish new vegetation to enhance the local environment. Fishery Officer Darren Wilson said "the river Douglas and its tributaries once contained an abundance of different species of fish. This habitat improvement work should help to provide the necessary habitat to re-establish a healthy population of fish and also help with other wildlife when the trees mature. The Agency has stock 15,000 roach, chub and dace at Eccleston and 6,000 at Horwich from our Leyland

Planting trees on the banks of the River Yarrow at Eccleston

fish farm and the new trees will hopefully provide these fish with the necessary habitat to propagate other areas once they mature."

♦ Newby Weir, Swanside Beck, Near Clitheroe

Newby Weir was originally constructed some 200 years ago to power a small mill via a mill race using local materials, namely limestone bedded in clay. Over the years the clay has been washed away and the stones displaced to the extent that the weir has largely disappeared. Although the weir is the responsibility of the riparian owners, remedial work to stabilise the remaining portion of the weir was undertaken by the Agency so that the opportunity to provide a vital route for fish migration could be seized. There is a great need for new and improved spawning areas as salmon stocks decline and the upper reaches of Swanside Beck can accommodate spawning areas if access is allowed. By encouraging the migration of salmon, numbers should increase and multiply as the adult fish return.

The stabilisation was achieved by the use of reinforced concrete tied into the natural bed rock. This was then faced with natural stone retrieved where possible from the plunge pool. The gradient of the weir was not affected by the work, with the concrete toe echoing the original diminishing gradient of the lower weir. The change in water level between the pool and weir is within Ministry of Agriculture Fisheries and Food (MAFF) guidelines.

Newby Weir

Fish may be deterred from migrating due to the velocity of the water and the burst speed required; passage may be blocked because of turbulence disorientating or preventing the fish's approach. In order to alleviate these difficulties, a system of baffles were designed to allow energy dissipation. Research has indicated that ideal baffle dimensions should be 0.6m x 0.3m x 0.25m depth with a large resting pool of 3m x 2m x 1.2m depth. The stilling basin is designed to dissipate the energy of the water discharged.

The maximum flow velocity would not exceed the previous velocities found at the crest. In dry weather conditions the centre channel, at 700mm wide, would take the full flow, discharging enough water to attract fish while the baffles reduce the circular side eddies which can cause disorientation, extending the migration.

Notches have been cut into the baffles to accommodate a range of velocities across the weir allowing a greater variety of fish to negotiate the weir. By reducing the velocity of the water across the weir, erosion of the clay bed and undercutting of the toe will be diminished but there will be sufficient flow to maintain a reasonable depth of pool downstream.

While it is too soon to give conclusive results, early indications are encouraging. Further monitoring surveys are planned for the summer as a continuance to the surveys undertaken prior to the work.

♦ Platforms for disabled anglers – River Ribble at Clitheroe

Angling facilities for the disabled are few and far between on Lancashires' rivers. The Agency has worked in a 50% partnership with Ribble Valley Borough Council to install two platforms for disabled anglers on the river Ribble at Clitheroe and improve an access path to the river that is commonly used by young local anglers at a cost of £16.5k. The platforms were designed with the assistance of disabled angler and radio presenter Martin James. The construction of the platforms is complete and an official launch of these facilities will take place during the summer of 1999.

♦ Platforms for disabled anglers – The Sluice at Banks

Work has commenced on a collaborative project to install three platforms for disabled anglers on The Sluice at Banks. This project was initially started several years ago and is about to come to fruition. The Agency, North West Water, West Lancs. District Council and Southport and District Anglers have worked together on this £40k project. The project includes installation of a car park for disabled anglers, access ramps to the fishing platforms suitable for wheelchair use and construction of three adjacent platforms which will partially overhang The Sluice. The platforms will be constructed on Agency owned land by Agency staff in an area where the fishing rights are already leased to Southport and

District AA. The Angling Club operate a day ticket scheme for non members. The car park has been constructed on District Council land and all materials for the project have been provided by North West Water. Again, an official launch of these new facilities will be organised for the summer of 1999.

♦ URBAN FISHERIES DEVELOPMENT PROGRAMME (UFDP)

The Urban Fisheries Development Programme was developed because it was discovered that in urban areas many people do not have access to fisheries, either because fisheries do not exist or access is restricted. The UFDP aims to increase access to good quality fishing in urban areas. The following projects highlight some of the projects undertaken in 1998.

♦ Chequer Lane, Skelmersdale

The Agency has commissioned a feasibility study to identify whether a site at Chequer Lane in Skelmersdale is a suitable location for the siting of a new fishery. Skelmersdale has very few waters suitable for fishing but the local demand is great. The Agency is working with West Lancs. District Council to progress this scheme. The Council has applied for outline planning permission and conducted a local consultation with residents. If the project goes ahead, it will provide a 20 peg fishery for local anglers and an amenity area for non anglers.

♦ Red Ponds and Heapy Lodges, Wigan

The Agency contributed to a collaborative project with Wigan and District Angling Association to improve the recreational amenity of several still water fisheries in the Wigan Area including Red Ponds, Heapy lodges and Fan Shaw lodge. The Agency contributed £5k towards the project and the angling club carried out he work on site that mainly included improving access to the fishery and the installation of angling platforms.

♦ Farington Community Park, Preston

Another urban fishery development project was completed in collaboration with South Preston Borough Council. Farington Park lodge is situated within Farington Community Park near Preston. An access path for wheelchairs was laid from a local car park to the lodge and the Agency's contribution of £5.5k also paid for 9 fishing platforms, including two platforms for disabled anglers to be created on the lodge. The Borough Council conducted local consultation, supervised and arranged the work on site. Agency staff conducted a survey of the fish population of the lodge and provided advice as to improving the fisheries habitat. Aquatic weed planting on the lodge will be carried out in the autumn of 1999 and this will be followed by a public launch of the facility.

Farington Park Lodge

♦ Liverpool City Park Lakes Restoration Programme

Central Area and Southern Area Fisheries staff have been liaising with the Leisure Services/Warden section of the Liverpool City Council over the past 3 years in an attempt to provide a future management strategy for the Liverpool Park Lakes and assist with a programme of restoration.

The Agency has committed £83K to the project. The City Council have more than matched that funding and have recently secured Lottery Heritage funding of £500K part of a bid for £32 million which, if secured, will be spent over the next 10 years to reinstate 13 major Park Lakes in Liverpool.

The aims of the project include:

- The promotion of angling in the urban environment, and to show that the development of a water body as an fishery can also act to the benefit of other user groups.
- To develop the use of the park by a wide range of user groups in addition to anglers.
- The development of a water supply and drainage plan and to ensure that water draining from the lake is of good quality and benefits its receiving watercourse.
- To provide a visually pleasing park area and the opportunity for visitors to appreciate the many interactive habitats of the lake environment

- To develop a range of water based habitats that will help to increase biodiversity within the lake including the development of a healthy sustainable fish population.

- To develop a board walk which will act as a viewing platform taking walkers over the top of the marginal vegetation and ensure access for disabled park users.

- To consider the health and safety of the park users and ensure that the local community is widely consulted to make sure that we deliver a facility which meets their needs.

To date, works have included:

- Netting surveys on Larkhill Gardens, Calderstones, Greenbank and Walton Hall Park lakes to help determine stock levels, species composition and disease status. Water quality samples have also been analysed as part of the ongoing ecological survey, which is being carried out by Liverpool Park Ranger Service Park Lakes Team.

- Plans developed to control erosion and provide improved angling access to Calderstones and Greenbank Park lakes.

- Temporary repairs on Princes Park Lake to render the banking safe until such time as more funding becomes available.

- Works carried out on the inlet to Green Bank Park Lake to improve the through flow to both Green Bank and Sefton Park Lakes.

- De-silting of Stanley Park Lakes. Here we assisted with the transfer of fish stocks from and to both lakes.

- De-silting and bank formalising on Calderstones Lake. As with all the lakes consideration has been given to all Park users with facilities for anglers in the form of fishing pegs to include father and child, and disabled pegs. Also general access for people wishing to sit by the lake and areas for conservation with no access. Water voles have recently been discovered on the Lake and so an area has been set aside to encourage their continued existence.

Lark Hill Park Lake is to be the "Flag Ship" project for the whole restoration process. This lake lies within Central Area's boundary. The lake was chosen, in the first place, as it is the smallest of all the main park lakes, but incorporates all the problems

Larkhill Park Lake Liverpool

to be encountered with the other lakes having a deep layer of silt, being overgrown and generally remained in a grossly unkempt condition.
At an early stage it was recognised that the local communities surrounding each of the lakes must be encouraged to take some ownership for the future. There has therefore been liaison with the local community, local angling groups, the Queens Partnership organisation, the RSPB representative and the local press, and in the future the local police force, all in an attempt to ensure sustainability.

The Lark Hill Park Lake project Phase I is planned to be completed at the end of June 1999. It will incorporate facilities for anglers in the form of raised platforms and walkways A walkway for visitors through a conservation wetland area - to be used as a teaching aid for local youth in particular on an organised basis. It has a defined overflow and ground water supply which were previously absent.

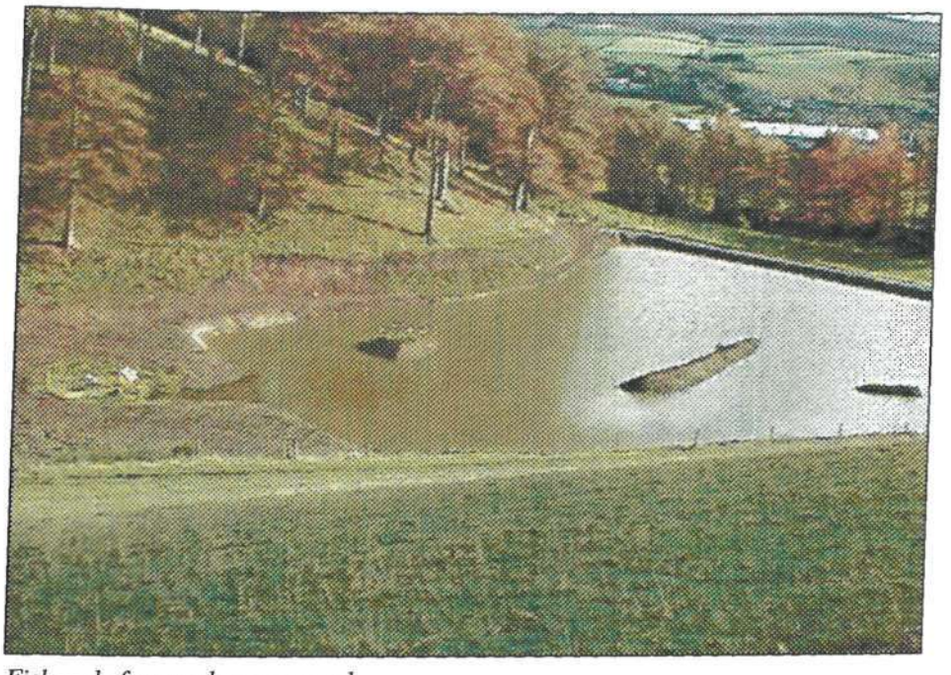
The Park Lakes Forum are hoping that sufficient publicity gained on completion of the Lark Hill project will go a long way to securing funding for the future. Many of the systems and works employed to restore the lakes, will, it is felt, be held as the model for similar projects elsewhere in the country if not internationally.

- **Lower Town House Fishery in Littleborough (South Area)**

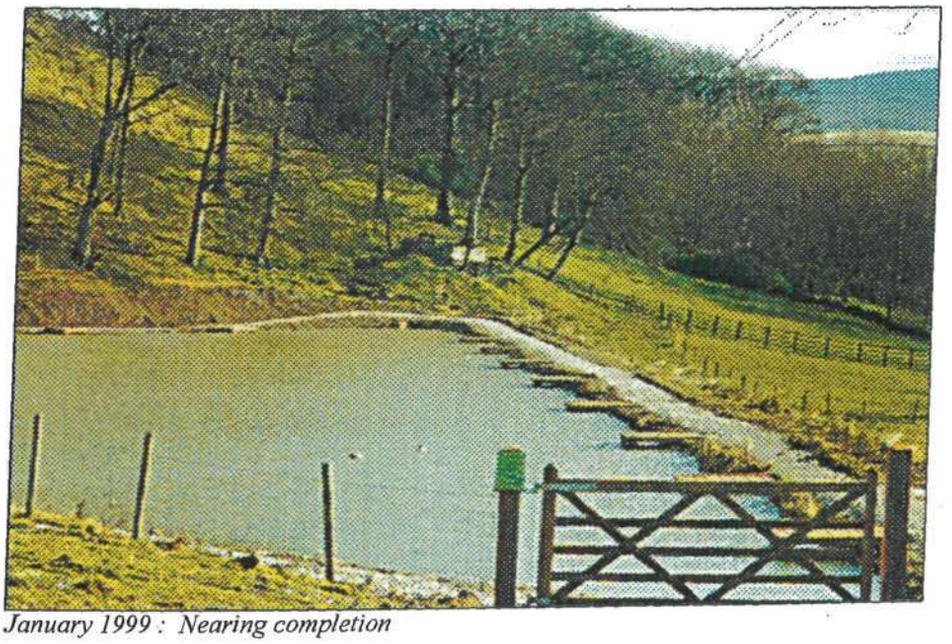
As part of the Urban Fisheries Development Project, the Environment Agency has worked in partnership with Todmorden Angling Society to develop angling facilities at Lower Town House Fishery in Littleborough.

Funds totalling £8,000 have been used for the creation of stone pathways providing access around the site, construction of angling platforms, desilting the water, stabilising the banks and islands, planting of marginal vegetation and general habitat improvement works.

The project, which was started in the autumn of 1998, will continue into 1999 and will improve angling for club members and the general public who may purchase a day ticket.



Fishery before work commenced



January 1999 : Nearing completion

SURVEY REPORTS 1998

The reports on the following pages are intended to give an overview of selected surveys carried out in 1998.

Anyone wishing to have more detailed information on these surveys is invited to contact the Area Offices at the addresses given earlier in this report.

NORTH AREA

♦ Summary of the Strategic Stock Assessment Survey for the River Ehen 1998.

An electric fishing survey of the Ehen catchment was carried out at 29 sites during the summer of 1998. The results are shown in Figures 1 and 2 in terms of salmon and trout parr equivalents (ie the number of fry caught are converted into parr and then added to the parr catch). The River Ehen both upstream and downstream of the River Keekle confluence exhibited very low salmon parr distribution along its reach. However, fry numbers, compared to those of 1993, did show an increase in numbers. No salmon were found on the River Keekle sites sampled, with fry and parr distribution on Dub Beck being very low. The other sites exhibited salmon populations throughout with parr being more widely distributed than fry.

Trout parr production in 1998 has fallen significantly compared to production in 1993. The greatest proportion of parr in 1993 were found in Kirk Beck (40%) whereas in 1998 the River Keekle was found to be the most productive at 33%. The productivity of the River Ehen, Kirk Beck and Black Beck all fell compared to 1993. However, an increase in trout parr was found for the River Keekle, Croasdale Beck and Dub Beck.

Total salmonid populations have declined significantly in the Ehen Catchment compared with the 1993 survey (Table 1). Salmon parr have fallen by 20% and trout parr by 68%. Salmon fry have also declined with trout fry remaining similar.

Table 1. Percentage of sites in abundance classes A-F.

Density Class	1993	1998
A	27	10
B	13	14
C	3	14
D	17	17
E	40	41
F	0	3
N° of sites	32	29

Suggested reasons for this decline include pollution incidents, high flows, bed movement, reduction in returning adult spawners and a reduction in suitable habitat. Numbers may also be affected by the 1995/1996 drought. However the full affect of this period will not be felt until 1999/2000.

The River Ehen has been affected by a number of pollution incidents over the past two years, which has impaired the water quality of the watercourse. This incident may be the reason for the absence of salmon juveniles in the river.

High flows during summer and autumn 1998 have been implicated as a reason for low juvenile salmonid populations. At this lifestage fish are normally inhabit marginal areas of the river where flows are low. Any increase will wash fish downstream.

♦ Summary of the Strategic Stock Assessment Survey for the River Calder 1998.

An electric fishing survey of the Calder catchment was carried out at 18 sites during the summer of 1998. The results are shown in Figures 1 and 2 in terms of salmon and trout parr equivalents (ie the number of fry caught are converted into parr and then added to the parr catch).

Salmon and trout were widely distributed throughout the River Calder, with salmon in relatively low abundance. Salmon fry were absent from the minor tributary sites excluding one site on Scargreen Beck. Salmon parr were only present in low numbers at one site on Worm Gill, however, densities were good at site in Scargreen. Trout parr were found in Newmill Beck but were absent from one site on Worm Gill and the lower Calder. The main River Calder exhibited the principal salmon producing area (93%) and Scargreen Beck (41%) for trout.

Overall salmonid populations had decreased significantly in the Calder Catchment since the previous survey in 1993. Both salmon and trout parr productivity had declined by approximately 60%.

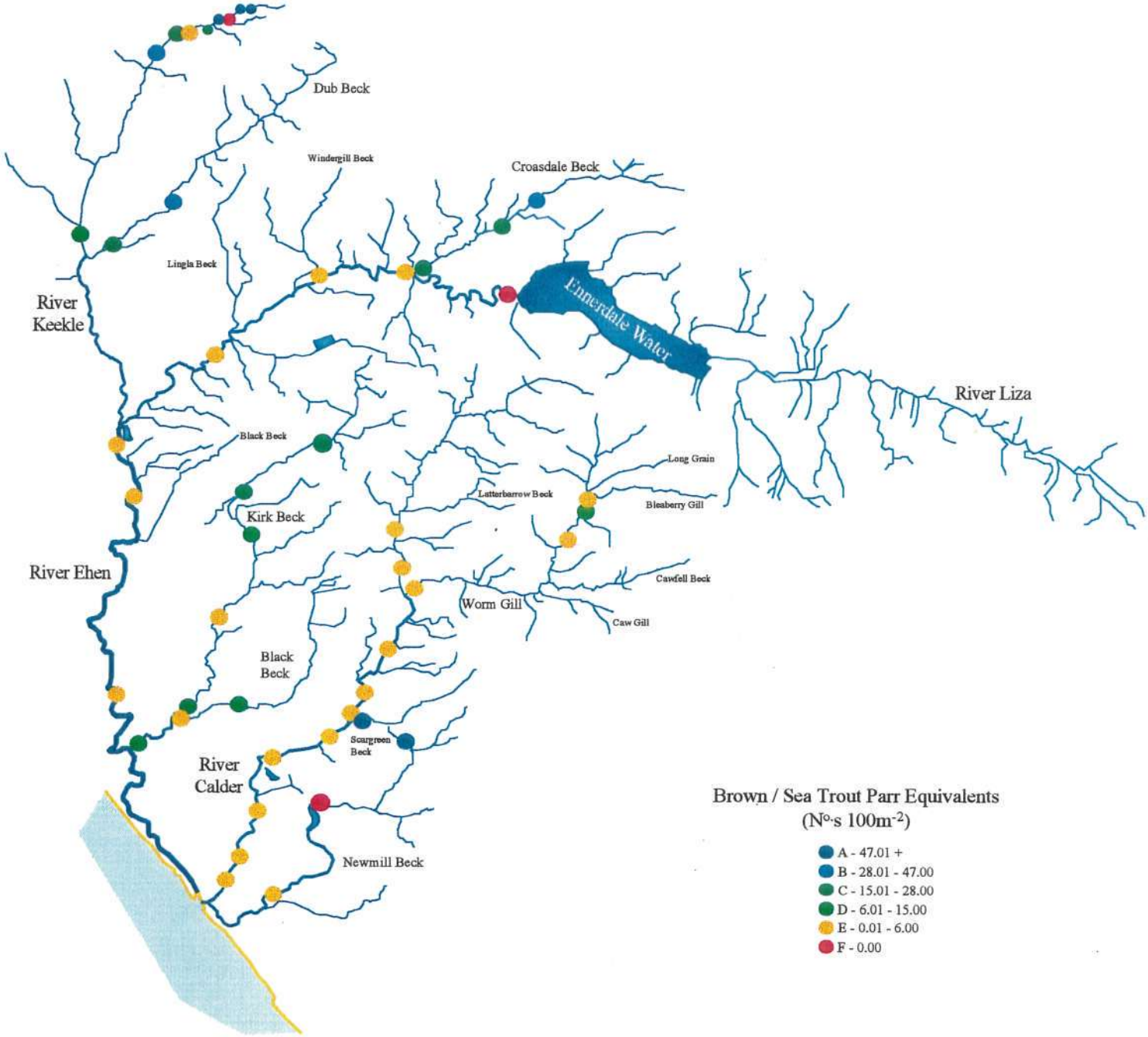
Table 1. Percentage of sites in abundance classes A-F.

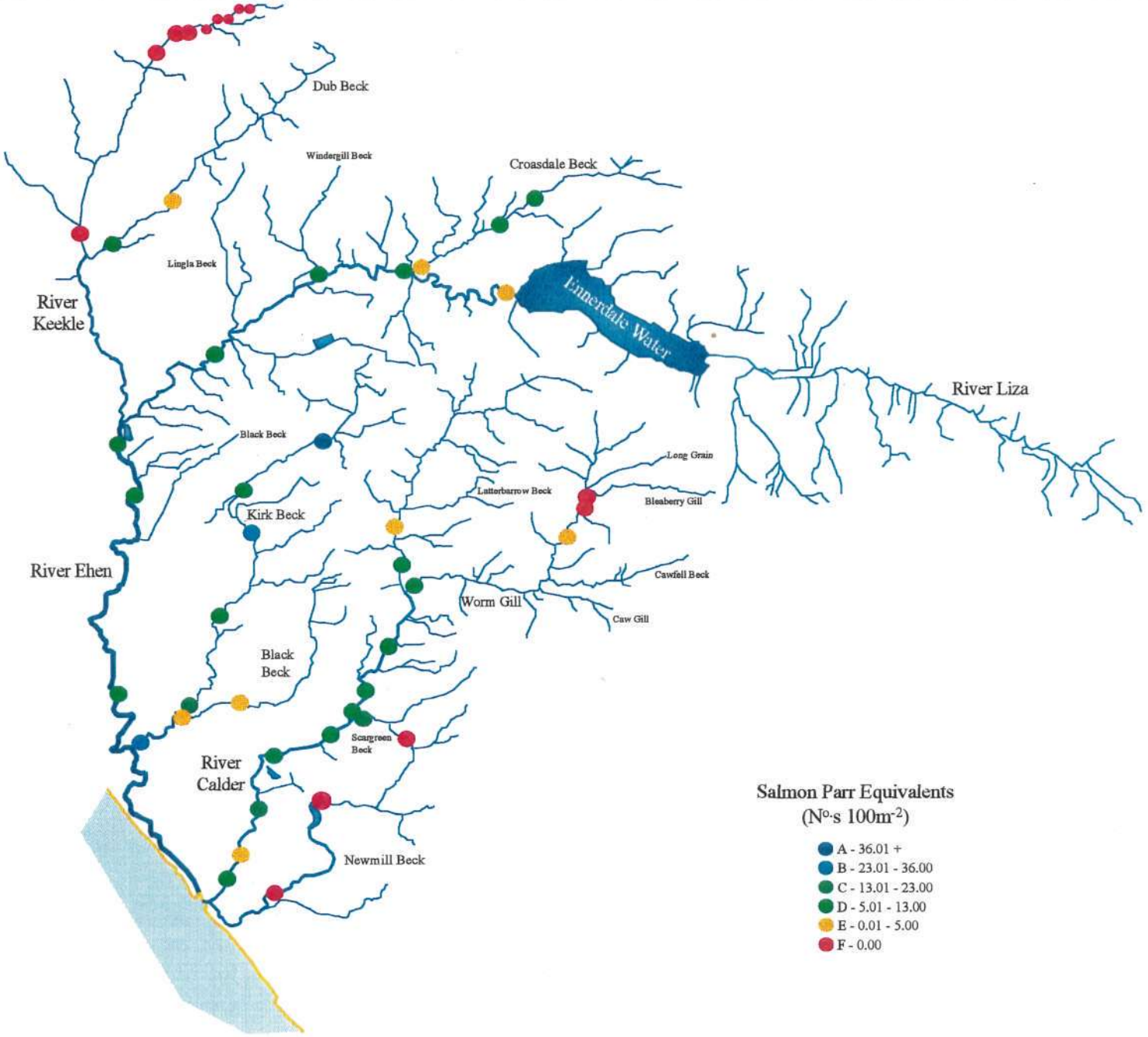
Density Class	1993	1998
A	6	11
B	17	0
C	11	0
D	11	0
E	44	83
F	11	6
N° of sites	18	18

However, improvement was observed in the productivity of trout in Worm Gill. This is very promising as previously this tributary was considered an area of concern and conditions were not ideal, i.e. extreme high flows. Low numbers of trout were witnessed in Newmill Beck suggesting a good recovery from the removal of pollution sources and pollution incidents that were previously experienced.

Possible reasons for this decline includes pollution incidents, high flows, bed movement, reduction in returning adult spawners and a reduction in suitable habitat. Numbers may also be affected by the 1995/1996 drought.

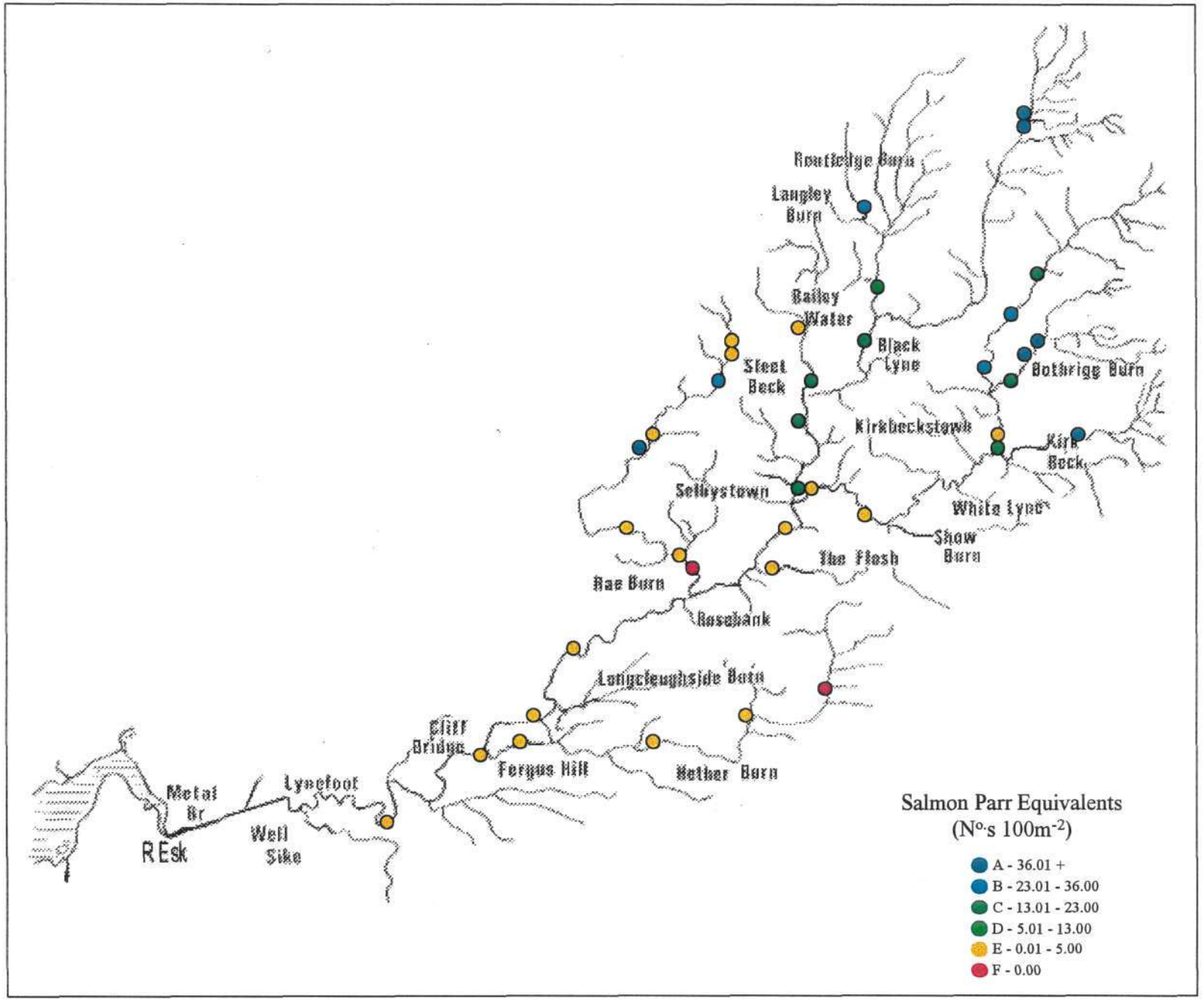
It is believed that the decline in fish populations was primarily due to the extreme high flows, which have occurred on the Calder Catchment. A survey conducted by APEM, commissioned by the Calder Conservancy Committee (CCC), (APEM, 1998), also identified this. These conditions were believed to have washed a large number of invertebrates downstream, and with the addition of excessive grazing, have reduced the amount of suitable habitat for salmonids. Furthermore, severe channel instability in Worm Gill and significant erosion, bank collapse and land loss in other parts of the system have also resulted.


Dub Beck
Windergill Beck
Croasdale Beck
Lingla Beck
River Keekle
Ennerdale Water
River Liza
Black Beck
Long Grain
Latterbarrow Beck
Bleaberry Gill
Kirk Beck
River Ehen
Cawfell Beck
Worm Gill
Caw Gill
Black Beck
Scargreen Beck
River Calder
Newmill Beck
Brown / Sea Trout Parr Equivalents
(No·s 100m-2)
A - 47.01 +
B - 28.01 - 47.00
C - 15.01 - 28.00
D - 6.01 - 15.00
E - 0.01 - 6.00
F - 0.00


Dub Beck
Windergill Beck
Croasdale Beck
Lingla Beck
River Keekle
Linnerdale Water
River Liza
Black Beck
Long Grain
Latterbarrow Beck
Bleaberry Gill
Kirk Beck
River Ehen
Cawfell Beck
Worm Gill
Caw Gill
Black Beck
Scargreen Beck
River Calder
Newmill Beck
Salmon Parr Equivalents
(N°·s 100m-2)
A - 36.01 +
B - 23.01 - 36.00
C - 13.01 - 23.00
D - 5.01 - 13.00
E - 0.01 - 5.00
F - 0.00

RIVER LYNE

Fish densities were generally lower than expected in the downstream half of the catchment but were good in the upper reaches. At most sites juvenile trout densities were higher than those for juvenile salmon.



CENTRAL AREA

♦ Seine Netting Survey of Ducky Pond Halewood Country Park

A collaborative project between the Agency and Knowsley Borough Council has resulted in Ducky Pond being extended and improvements made to the existing access arrangements.

The original pond was surveyed to determine its fish stocks. The 0.1 hectare pond proved difficult to net due to the number of underwater obstacles that were present. It was netted four times resulting in a total catch of 48.75 kg, which consisted of crucian carp, bream, tench and roach (Table 1). Fish <60g were classified as mixed fish and consisted of roach, roach x bream hybrids and perch

Table 1. Composition of the catch from Ducky Pond.

Species	Number caught	Total weight (kg)	Mean weight (g)
Crucian carp	101	16.0	158
Bream	8	5.0	625
Tench	14	5.5	393
Roach	20	3.0	150
Mixed small fish	Not counted	19.3	

Recommendations

Stocking of additional fish to the pond should not be undertaken after the completion of the extension but should be reviewed after two years to see whether some level of stock manipulation was appropriate.

The pond, at the inlet, has a problem with very deep organic debris, which consists mainly of rotted leaves and branches. This debris, when disturbed, was giving off large quantities of hydrogen sulphide. Removing some of the larger items of debris by hand is one option as is the application of hydrated lime to the affected area, which will help its breakdown by natural processes. Both of these operations should only be carried out during the winter months and not during summer as they may result in a fish kill.

As the survey highlighted a very high incidence of hook damage, particularly in the crucians which were probably the older fish in the pond and will have been caught many times. It is suggested that only barbless hooks should be used.

A management plan should be drawn up for Ducky Pond by the Angling Club and the Ranger Service which outlines what is required from the pond and then details how it can be achieved.

♦ Seine Netting Survey of Platts Lane Lake

The survey was carried out in March with the assistance of Burscough Angling Club. The purpose was to enable the angling club to make decisions regarding a future stocking policy, and to identify the requirement for fishery habitat improvements. This netting survey revealed a good head of fish including some large carp, one of which had been injured by a pellet from an air rifle. Following on from the recommendations made in the report advice was given to the club by Agency staff regarding weed establishment within the lake.

The surface area of the lake was estimated to be 1 hectare and the total catch was 480 kg. The minimum estimate for the stocking density of Platts Lane Lake was 480kg/hectare and was made of carp, crucian carp, bream, roach, perch, rudd, tench and eel (Table 1). The mixed fish category consisted mainly of small bream (50%), roach (35%) and perch (15%) all <90g in weight.

Table 1. Composition of the catch from Platts lane Lake.

Species	Number caught	Total weight (kg)
Carp	6	27.5
Crucian carp	33	9.5
Bream	373	121.0
Roach	15	2.5
Rudd	10	0.5
Perch	8	3.5
Tench	35	28.5
Eel	87	Not weighed
Mixed small fish	Not counted	287.0

A large proportion of the catch was under 90g with the 100 to 250g size class poorly represented. Without the bream the 250 to 500g size class would have been very poor as well.

The results suggest that the lake is suffering from poor recruitment to the adult sized fish, and, when considering the overall estimated biomass it was felt that this problem was largely due to competition for the available resources.

Recommendations.

- To increase the number of larger fish in the population it was suggested that the stock level be reduced by between 50 to 150kg.
- That no fish should be stocked without removing at least an equivalent weight of fish from the water.
- Control the numbers and size of the carp in the lake to avoid dominance and reduce colouring of the water.
- If the aim is to have a roach and rudd fishery then habitat diversity needs to be increased in particular the amount of aquatic plants, which are presently limited. However to achieve this, the density of bottom feeding fish does need to be reduced.

SOUTH AREA

♦ Whittle Brook, Great Sankey, Warrington Electric fishing Survey, 1998

River rehabilitation work was carried out in 1995/1996 on Whittle Brook to re-instate meanders, create low level berms, re-profile the banks, create an oxbow pond and plant marginal vegetation to improve habitat diversity. The river had been previously channelised and straightened over the years for flood defence purposes.

Post project appraisals have been carried out in collaboration with colleagues from Ecology and Flood Defence to assess the effectiveness of the river rehabilitation work. Electric fishing surveys were carried out in 1995, 1996 and 1998 to monitor any change in the fish population both upstream and downstream of the habitat improvement works. In each of the years, 5 sites were monitored with the location and length of site, where possible, remaining the same to ensure continuity. All the sites in 1998 were surveyed on 29th September and 10th October.

These surveys were carried out semi-quantitatively therefore the fish abundance is representative of a minimum estimate only. Marginal species such as stickleback were not caught, however an estimate of the numbers present was recorded.

Overall from 1995 to 1998, there was an increase in the total numbers of eel, flounder and goby caught but a decline in the total number of stickleback. Although this represents an apparent improvement in the fishery community, future monitoring will continue to be carried out to assess its significance.

Total number of fish			
	1995	1996	1998
Eel	159	141	203
Flounder	48	94	112
Stickleback	830	374	290
Goby	0	0	8

Whittle Brook was stocked in December 1998 with 1,000 chub (a species thought suitable for the habitat found at Whittle Brook) from the Environment Agency's Hatchery at Leyland as a pump priming exercise.

♦ Fishery Survey Of Weston Canal - November 1998 - March 1999

The Weston Canal is a spur of the Weaver Navigation, running approximately 3.4 miles from upstream of the Frodsham A56 swing bridge (SJ 540 786) to the old basin of Weston Point Docks (SJ 495 812). The east side is heavily industrialised and the canal receives multiple discharges from the Castner-Kellner and Rocksavage works at Runcorn, part of ICI Merseyside operations.

Fyke nets were deployed parallel to the canal wall at 12 sites between Frodsham railway bridge and Weston Point lock. The nets were set for two periods (winter and spring), each covering approximately one lunar cycle. For the winter (*13th November 7th December 1998*, a combination of double and single-ended nets were fished with variable leader lengths and mesh sizes. Nets were hauled after 4 - 9 night and fish were counted, measured and weighed before being released a short distance from the sampling site. Stickleback abundance could not be reliably determined. For the spring sample (*2nd – 31st March*), standard double-ended nets were used at each site (12mm stretched mesh size) and nets were hauled after 6 - 15 night.

The results are summarised in Table 1. In winter 67 fish, comprising 5 species were captured. The catch was dominated by eel *(Anguilla anguilla)* and flounder *(Platichthys flesus)* in terms of numbers and eel in terms of weight. These two species were distributed throughout the length of the canal surveyed. Three-spined sticklebacks were common at the 4 most southerly sites and specimens of perch and roach were also obtained. Eel and flounder ranged in length from 29.0 - 63.0 cm (80 - 370g) and 8.5 - 21.0 cm respectively. Both the perch and roach were small specimens, 7.0 and 4.5 cm respectively.

Table 1. Species Captured in Weston Canal

Species	Winter	Spring		
	Number	Weight (kg)	Number	Weight (kg)
Eel	31	5.4	365	54.3
Flounder	34	1.3	32	0.6
Perch	1	-	25	0.8
Roach	1	-		
Pike			2	6.5
Goby			1	-
Stickleback	Common	-	Common	-

Catches were much higher in the spring sample period. 425 fish, comprising 6 species were captured with eel making up the bulk of the catch. Two further species were caught: pike and goby. Eel and flounder were again well distributed along the canal, but perch and stickleback appeared to have a more extended range compared to winter. Very high catches of eel were obtained, particularly in the northern net adjacent to the power station. Flounder and perch ranged in length from 7.4 - 16.0 cm and 6.0 - 20.0 cm (3 - 143g) respectively. Lengths were not recorded for eel due to time constraints, however a broad size-range was observed from elver (<10 cm) to individuals > 60 cm in length.

The survey will continue until the end of 1999, with 4 week sampling periods in summer and autumn. These should provide additional information on the residency of fish species, direction of movement within the canal and permit more quantitative approaches to future analyses. Ultimately, the prospects for a commercial eel fishery and angling on the canal will be considered.

♦ River Goyt Survey

The River Goyt rises on the moors between Buxton and Macclesfield and flows northwards to feed Errwood and Fernilee Reservoirs. It then passes through Whaley Bridge (site 5), New Mills (site 8) and Marple (site 10) before it joins the River Tame in Stockport.

In the past many catchments within the South Area have suffered from poor water quality which had caused the disappearance of fish in many river stretches. The Goyt, and its tributaries, have benefited from recent water quality improvements and are considered to be an example of a catchment with an improving fisheries status.

An electric fishing survey comprising 39 sites on the River Goyt and its tributaries was undertaken during the latter half of 1998 and early 1999. The results were based on minimum estimates from a single fishing at each site. The results were entered onto the Fisheries Classification Database that compares the information from that site, with other similar sites throughout the country. Class A will indicate a pristine fishery, whilst Class F indicates the absence of fish (other than marginal species such as stickleback and minnow). However, the surveys on the Goyt catchment were carried out semi-quantitatively and therefore represent the absolute minimum number of fish present

Results indicated that the River Goyt above New Mills (site 8) was dominated by brown trout, which were found at the majority of sites. There were three sites where no fish were caught. One of these sites was above Errwood Reservoir with the two

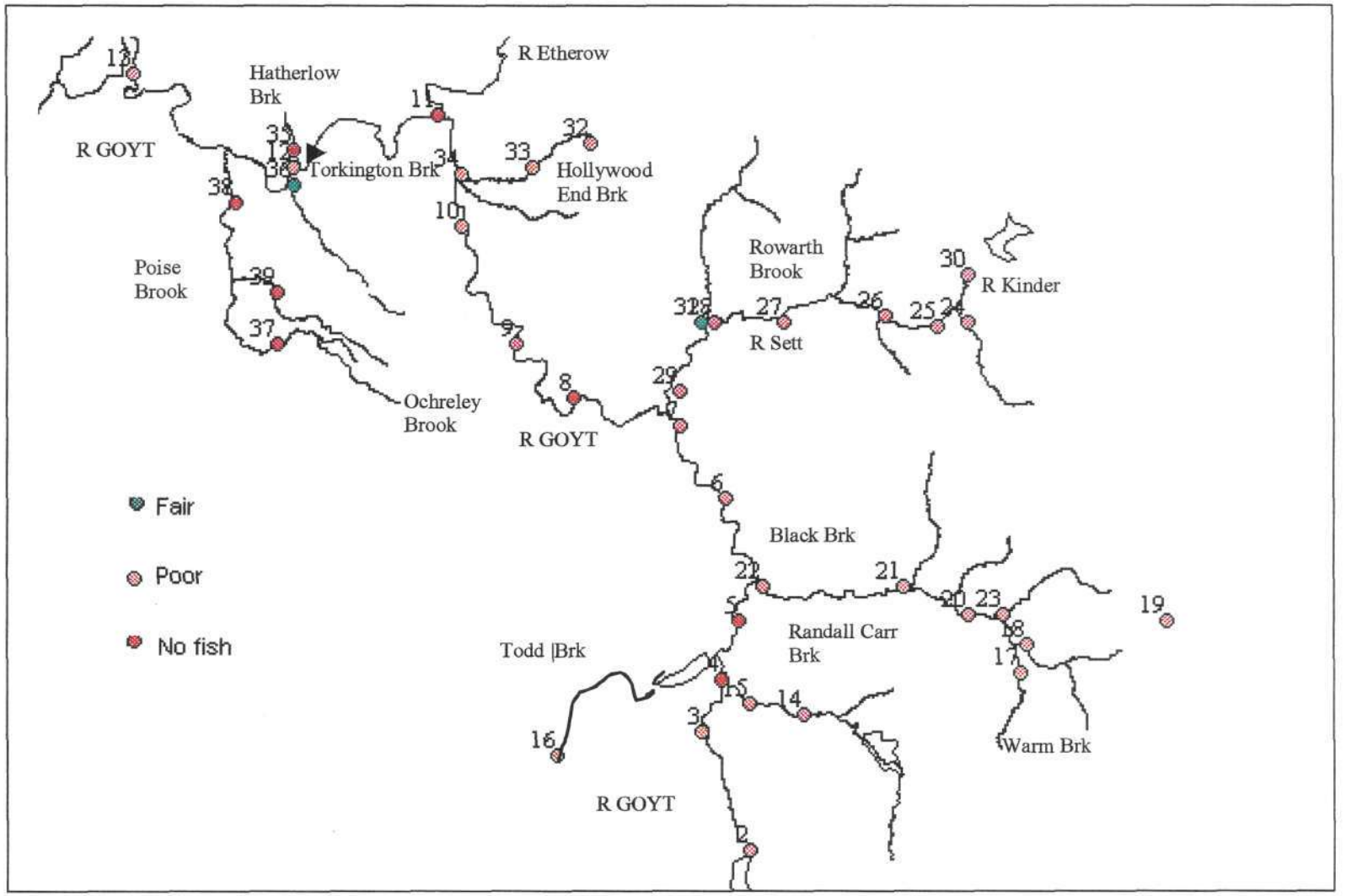
remaining sites located between Horwich End (site 4) and Whaley Bridge (site 5). Below New Mills the river was dominated by coarse fish species, with reasonable catches being found at Otterspool Bridge (site 12).

The tributaries of the River Goyt contained mainly brown trout fisheries, with relatively poor-fair populations being indicated on the River Sett (which also contained coarse fish in the lower reaches), Todd Brook, Randall Carr Brook and the upper reaches of Black Brook.

Torkington Brook contained populations of chub and showed a significant improvement in both species abundance and diversity since the previous survey in 1994. Poise Brook and Ochreley Brook were the only tributaries containing solely marginal species.

RIVER GOYT SURVEY

Site	DESCRIPTION
1	Derbyshire Bridge
2	d/s Fernilee Reservoir
3	nr Shallcross Hall Farm
4	Whaley Bridge ptc
5	Whaley Bridge
6	Gowhole Furnessvale
7	d/s Railway Bridge New Mills
8	Disley
9	Strines
10	Bottoms Hall
11	Brabyns Park d/s confluence Etherow
12	Otterspool A627 Bridge
13	ptc Tame
14	B5470 Bridge
15	ptc Goyt nr Whaley Bridge
16	A5002 Bridge Reed Farm
17	Townend Chapel-en-le-Frith
18	u/s Warm Brook
19	u/s tributary
20	d/s Bridgeholm Mill
21	Chinley
22	nr Buxworth
23	Chapel Milton u/s Black Brook
24	ptc Kinder
25	Hayfield Campsite
26	Royal Hotel
27	Birch Vale
28	Thornsett ptc Rowarth Bk
29	d/s Pineapple Inn New Mills
30	d/s Kinder Reservoir
31	ptc River Sett
32	Sportmans Farm
33	Greenhill Farm Bridge
34	ptc Goyt
35	Chadkirk Farm
36	ptc Goyt
37	Railway Bridge
38	A626 Bridge
39	Hazel Grove Estate



APPENDIX

ENVIRONMENT AGENCY FISHERIES STAFF AND COMMITTEE MEMBERS

(as at May 1999)

FISHERIES STAFF

* Richard Fairclough House

Mark Diamond, Principal, Fisheries, Conservation, Recreation and Biology, Richard Fairclough House, Knutsford Road, Warrington, WA4 1HG
Tel 01925 653999
Miran Aprahamian, Senior Fisheries Scientist, Fisheries Science Unit
Jon Hilary, Fisheries Scientist
David Nelson, Planning and Performance Manager
Ken Watson, Technical Support Officer

* North Area

Cameron Durie, Area Fisheries, Ecology and Recreation Manager, Ghyll Mount, Gillan Way, Penrith 40 Business Park, Penrith, Cumbria, CA11 8BP, Tel 01768 866 666
Gill Watson, FER Officer

Keith Kendall, Fisheries & Recreation Team Leader (North Cumbria)
Jane Atkins, Fisheries Scienist (North Cumbria)

Keith Bell, Fisheries Officer level 1 (Eden)
Fisheries Officers:-**Raymond Clarke, Barry Parker, Ian Parsons, Iain Bell, Jim Muir**

Denis McCartan, Fisheries Officer level 1 (West Cumbria)
Fisheries Officers :-**Vic Semple, George Brown, Peter Scott, Martyn Pepper, Martin Richardson**

Liz Black, Fisheries & Recreation Team Leader (South Cumbria)
Ben Bayliss, Fisheries Scientist (South Cumbria)

Dave Pearson, Fisheries Officer level 1 (South West Cumbria)
Fisheries Officers:-**David Smith, Mike Bell, David Petrie, Gary Morton**

John Foster, Fisheries Officer level 1 (South Lakes)
Fisheries Officers:-**John Martin, Mike Dixon, Peter Evoy, Graeme McKee, John Hadwin**

* Central Area

Dafydd Evans, Area Fisheries Ecology and Recreation Manager,
PO Box 519, Lutra House, Preston, PR8 8GD
Tel 01772 339882
Edna Cummings, Technical Support Officer

Steve Whittam, Team Leader Enforcement
Fisheries Officers:- **Andy Blezard, John Barker, Jeffrey Burton, Neil Handy, Steve Leech, Geoff Wharton**

Mark Atherton, Team Leader Fisheries Mgt, Science & Recreation
Brian Shields, Fisheries Scientist
Fisheries Officers:-**Heather Airlie, Ian Bentley, J ohn Cizdyn, Andy Clarke, Paul Glover, Peter Horner, Grant Talbot, RodTaylor, Darren Wilson**

* South Area

Bob Lee, Area Fisheries, Ecology and Recreation Manager, Appleton House, 430 Birchwood Boulevard, Warrington, Cheshire, WA3 7WD, Tel 01925 840 000
Dawn Grundy, Fisheries and Recreation Officer, FER

Bernie Chappell, Fisheries & Recreation Team Leader (West)
Jon Hately, Fisheries Scientist (West)

Paul Blake, Fisheries Officer level 1 (West)
Fisheries Officers :-**Graham Harrison, Colin Molloy, Andy Eaves**

Graham Fitzgerald, Fisheries and Recreation Team Leader (East)
Ayesha Taylor, Fisheries Scientist (East)
Nigel Taylor, Fisheries Officer level 1 (East)
Fisheries Officers:-**Mick Charnley, Paul Bennett, Ian Hayes**

ENVIRONMENT AGENCY - NORTH WEST REGION
REGIONAL FISHERIES ECOLOGY, RECREATION ADVISORY COMMITTEE

(as at May 1999)

MEMBER	MAIN INTEREST	APPOINTMENT UNTIL
J Carr	Chairman	31.03.2000
	FISHERIES	
A. Bielderman	Coarse	31.03.2002
B J Briggs MBE	Coarse	31.03.2001
F Lythgoe	Coarse	31.03.2000
E L Maddison	Coarse	31.03.2000
F A French	Coarse & Trout	31.03.2000
Dr K O'Hara	Coarse	31.03.2000
J M Castle	Game	31.03.2001
K B Spencer	Game	31.03.2001
T E King	Game	31.03.2000
R Adams	Game	31.03.2000
E Newman	Netsman	31.03.2000
	ACADEMIC/PROFESSIONAL	
Dr I Winfield	Institute of Freshwater Ecology	31.03.2002
	CONSERVATION	
E D Le Cren	The Wildlife Trust	31.03.2001
	RECREATION	
J C Selby	Mersey Basin Trust / Royal Yachting Association	31.03.2002
C H Cleaver	British Canoe Union	31.03.2000
	NAVIGATION	
M P Payne	Inland Waterways Association	31.03.2000
	RIPARIAN INTEREST	
H. Tonge	Carlisle	31.03.2002
R A Challenor	North Lancashire / South Cumbria	31.03.2000
	CROSS REPRESENTATION	
B Alexander	REPAC Chairman	31.12.2001
W M Wannop OBE	RFDC Chairman	30.06.2000

CONSULTATIVE ASSOCIATION CONTACTS

The Environment Agency, North West Region work closely with the many angling clubs in its area. As mentioned previously, there is a statutory requirement on the Agency to set up and maintain a Regional Fisheries Advisory Committee.

The fisheries Associations aim to protect the interests of all anglers, angling clubs and riparian owners on their river systems and work closely advising the Agency on matters of concern to them. They are asked to nominate members to serve on RFERAC and attend liaison meetings with the Agency.
Local societies and clubs do excellent work on behalf of their members but a united approach can sometimes have greater effect.

Further information on the Consultative Associations can be obtained from the secretaries.

Mersey & Weaver Anglers' Consultative Association
Mr C Goodlad
161 Scobell Street
Tottington
Bury
Lancs BL8 3DE
Tel: 01204 885862

Lancashire Fisheries Consultative Association
Mr A G R Brown
10 Dale Road
Golborne
Warrington
Cheshire WA3 3PN
Tel: 01942 726917

Ribble Fisheries Association
Mr CJ Heap
81 Moorland Road
Langho
Ribble Valley
Lancs BB6 8HA
Tel: 01254 249157

Lune & Wyre Fisheries Association
Mr R A Challenor
clo Davis & Bowring
6 Main Street
Kirkby Lonsdale
Carnforth
Lancs LA6 2AF
Tel: 01524271711

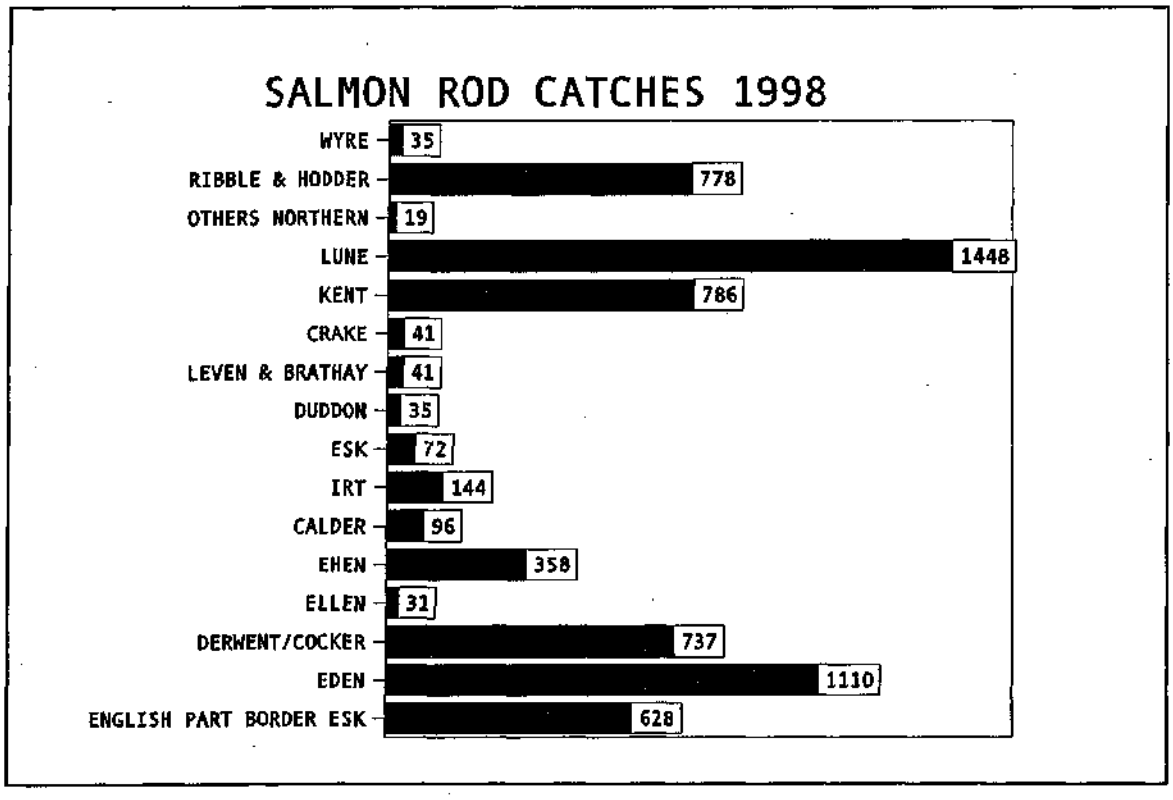
Furness & South Cumbria Fisheries Consultative Association
Mr F A French, FIFM
Sweden How
Sweden Bridge Lane
Ambleside
Cumbria LA22 9EX
Tel/Fax: 015394 32463

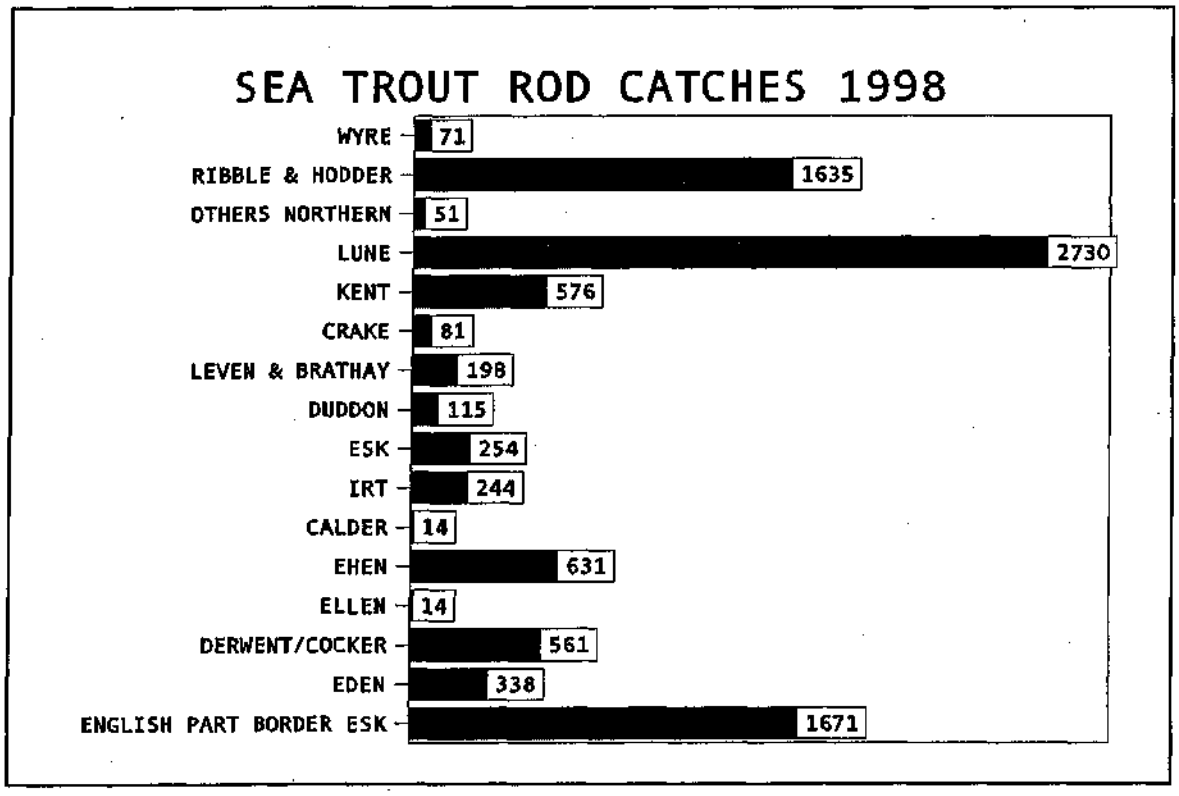
South & West Cumberland Fisheries Association
Mr W Arnold
Knott End Estate
Ravenglass
Cumbria CA18 IRT
Tel: 01229 717255
Fax: 01229 717698

River Eden & District Fisheries Association
Mr A G Britton
24 Cammock Avenue
Upperby
Carlisle
Cumbria CA2 4PD
Tel: 01228 539752

Esk & Liddel Improvement Association
MrGLLewis
Factor of the Buccleuch Estates
Ewesbank
Langholme
Dumfriesshire
DG13

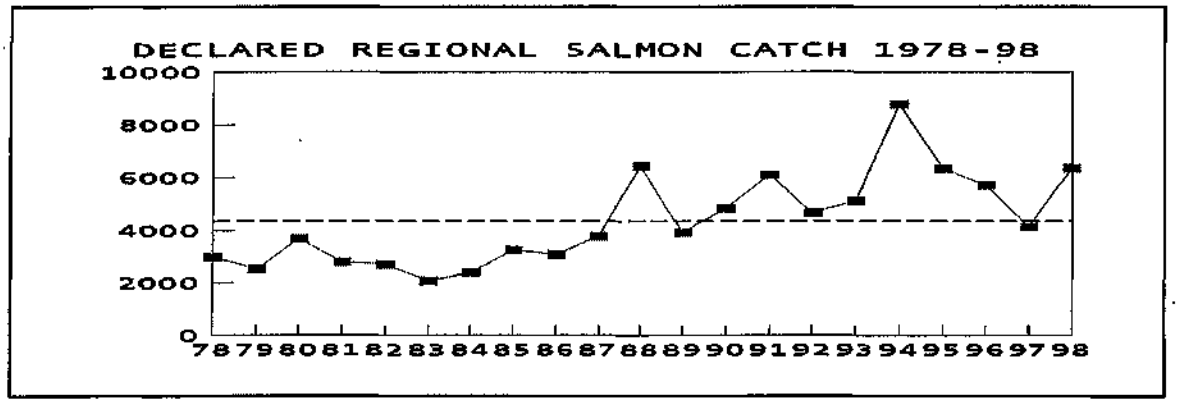
DECLARED SALMON AND SEA TROUT CATCHES

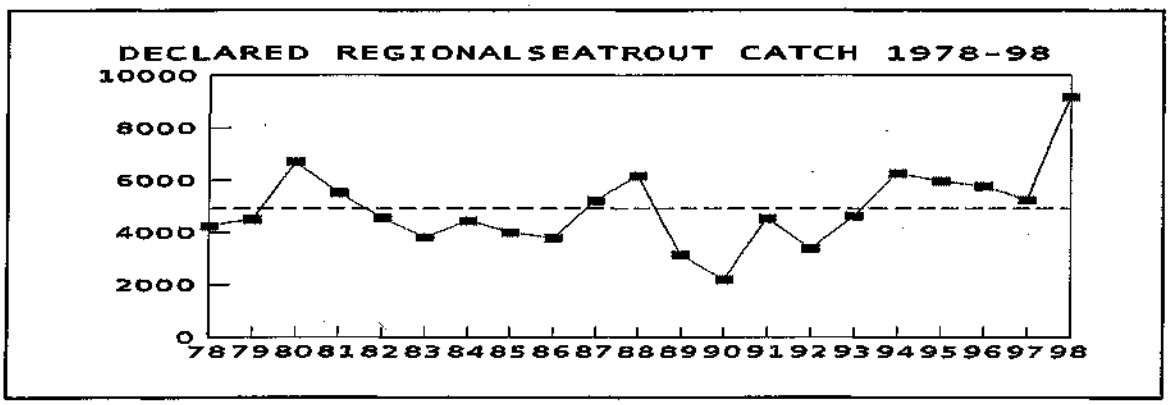




DECLARED ROD AND LINE CATCHES (FROM LICENCE RETURNS) 1978-98

Regional Trends 1978-1998





Catch 1998 season

In general, 1998 was a fairly wet year. These conditions may have attracted salmon and sea trout into fresh water more quickly than normal, possibly reducing their availability to the net fisheries. Angling conditions were generally good, although high flows did constrain fishing for some periods.

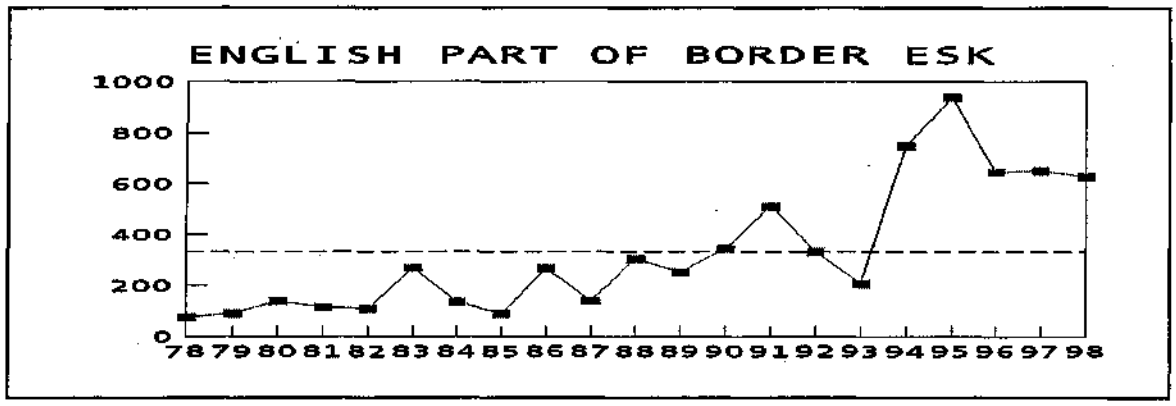
The total number of salmon declared caught was 6359 by the rods and 1762 by the nets, for sea trout the catches were 9184 and 1154 fish respectively. The catch by the rods was up on 1997 and for some rivers was the highest for the last 20 years. However for the nets the low catch probably reflected poor fishing conditions.

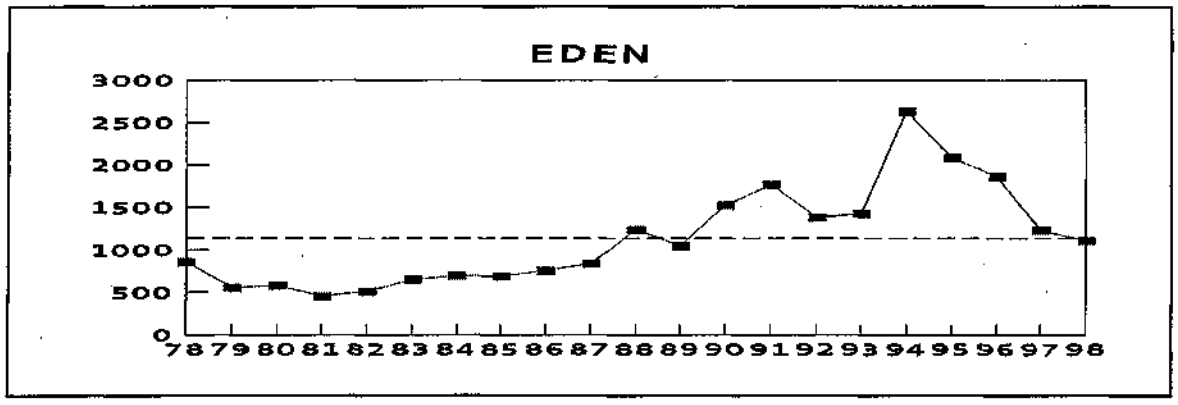
In terms of the number of salmon caught by rod and line in England and Wales, four out of the top five rivers were in North West Region; Lune, Eden, Ribble & Hodder and the Derwent. In terms of the number of salmon caught per 100 days rod fishing the average for 1998 was 8.6 salmon caught per 100 days, which was the highest of the 7 English regions and Wales.

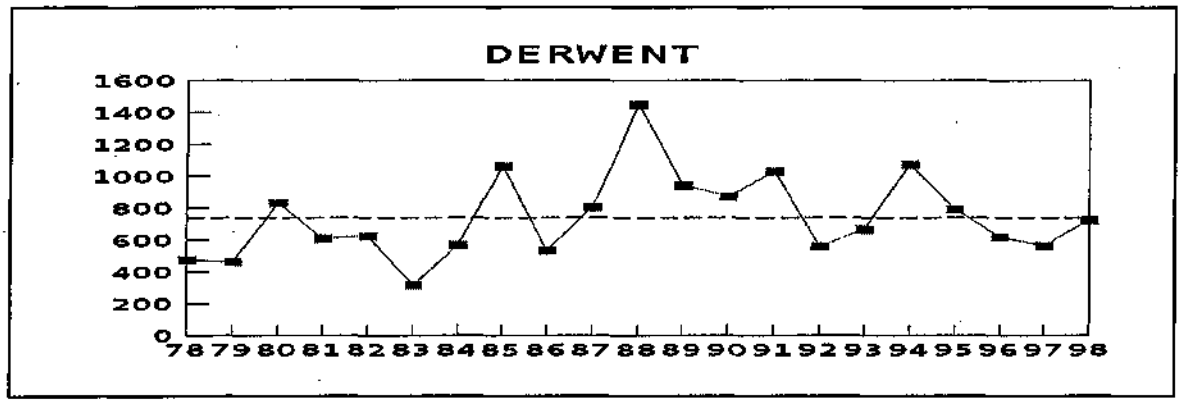
Spawning escapement for those rivers where a Salmon Action Plan has been produced was exceeded in two (Lune and Ehen), was close to target in two (Eden and Calder) and was approximately half target level in two (Leven and Crake).

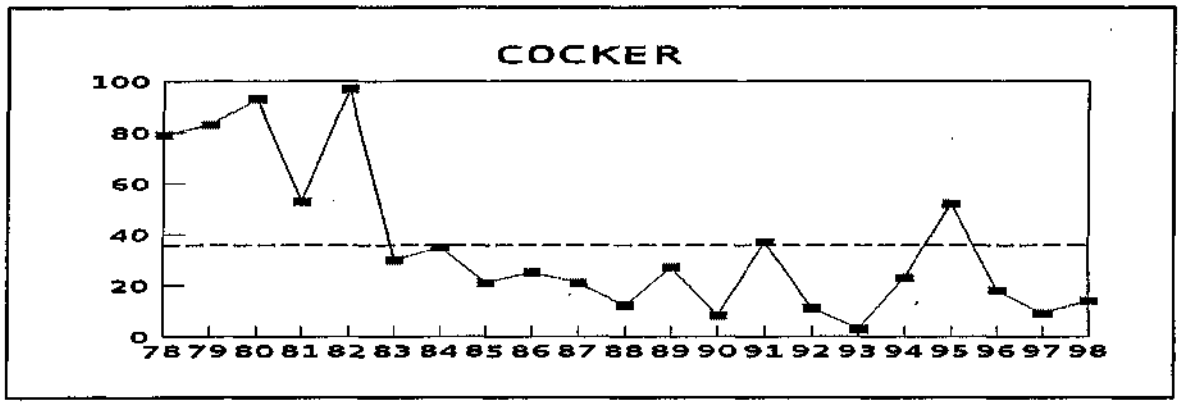
The catch data reported here represent declared catch only and thus will not be an accurate record of the total number of fish landed. It is important to remember that over the time period there has been a general improvement in the reporting rate. It is estimated that presently 90% of the fish caught are reported compared to less than 50% a decade ago. Complications also exist for sea trout in the interpretation of the time series as in the past many of the smaller sea trout were returned and therefore not recorded in the catch. It is therefore essential to exercise great caution in the interpretation of the time series.

DECLARED SALMON ROD CATCHES 1978-1998 AND LONG TERM AVERAGE

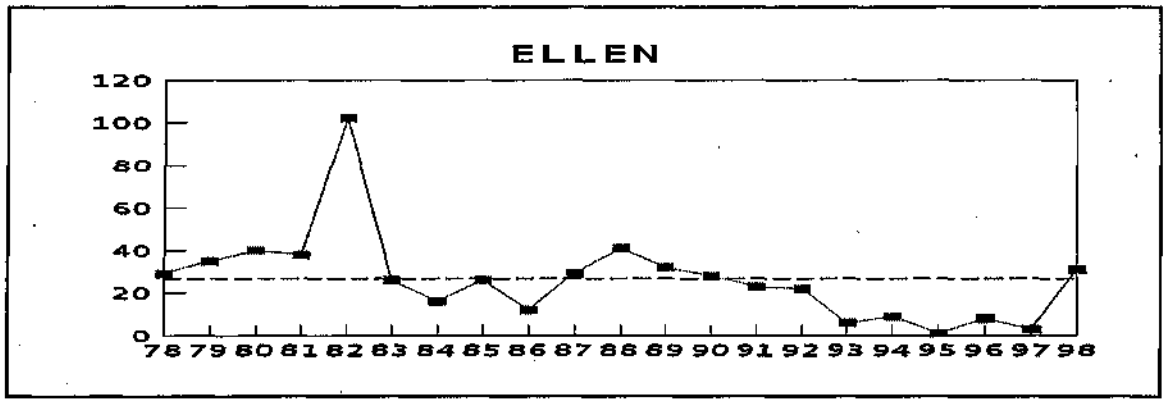


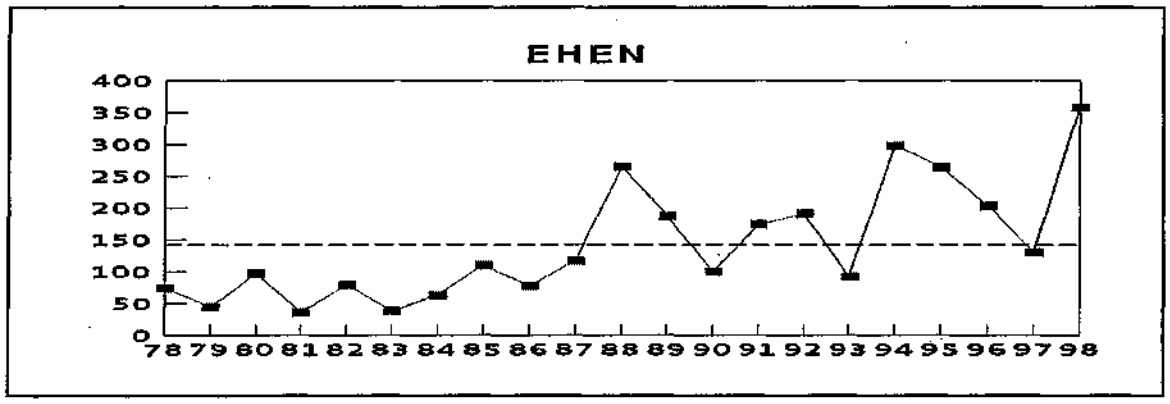


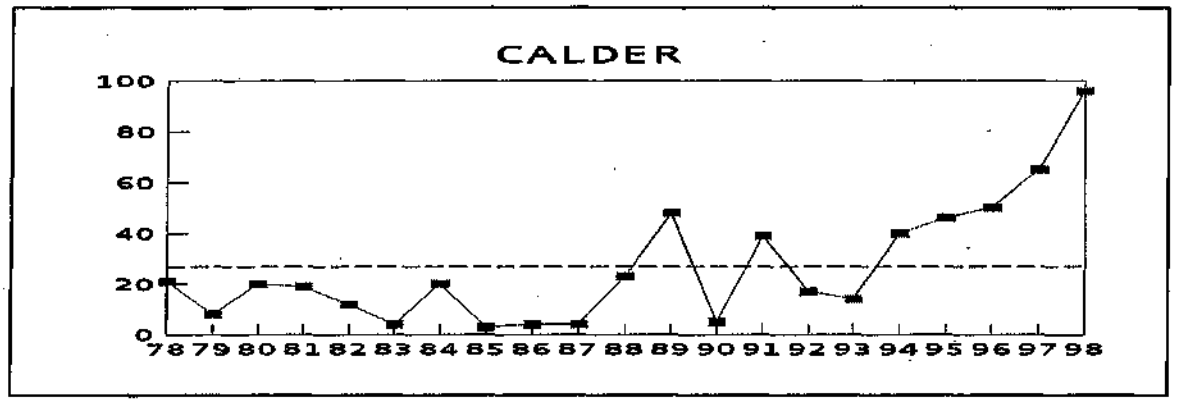


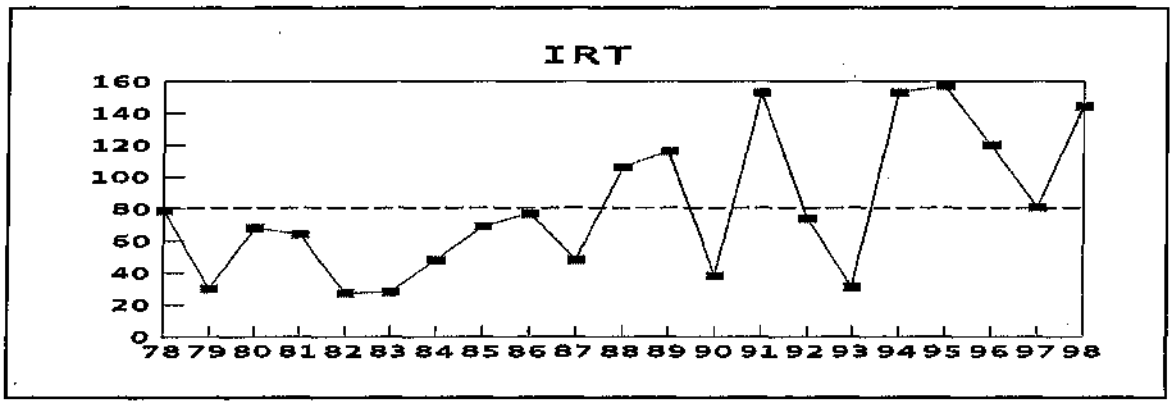


DECLARED SALMON ROD CATCHES 1978 -1998 AND LONG TERM AVERAGE

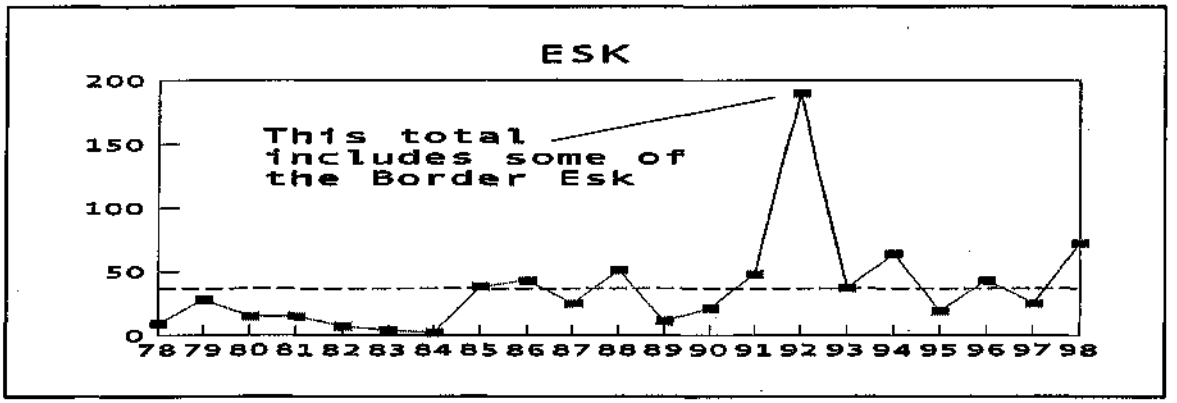


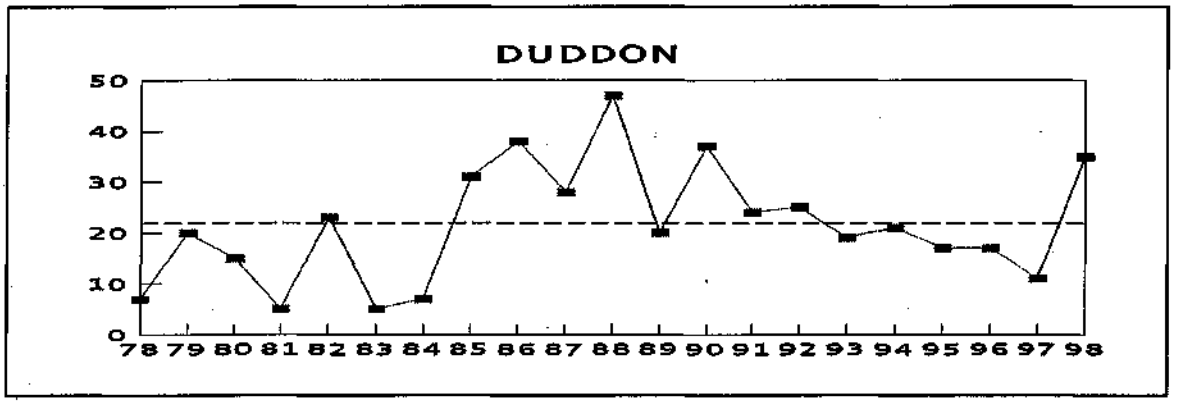


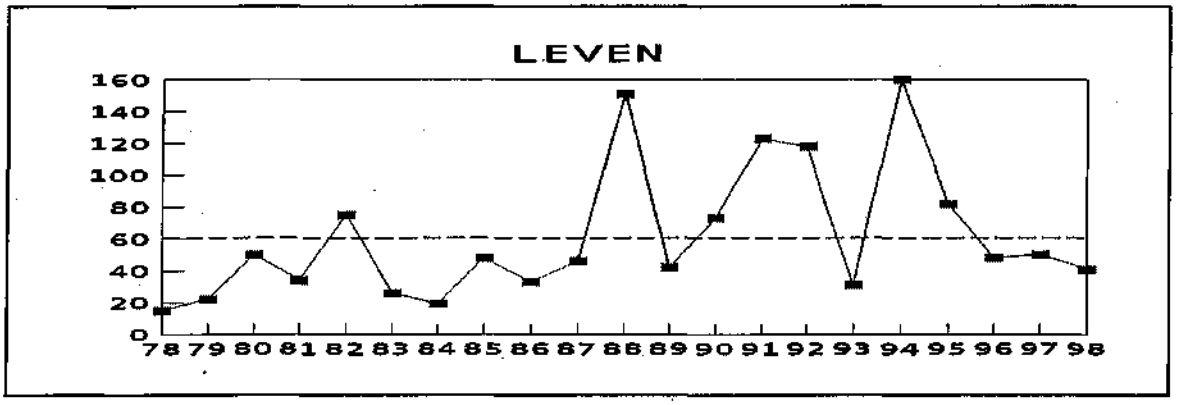


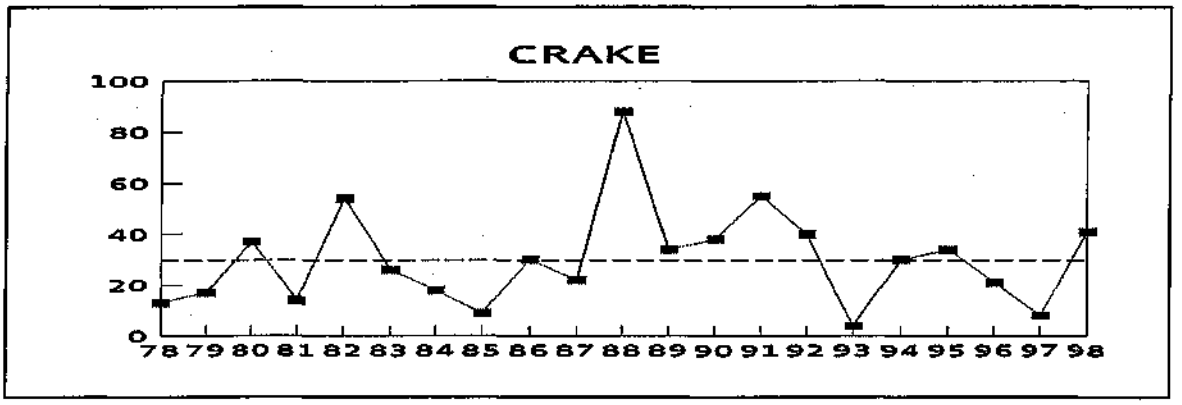


DECLARED SALMON ROD CATCHES 1978 -1998 AND LONG TERM AVERAGE

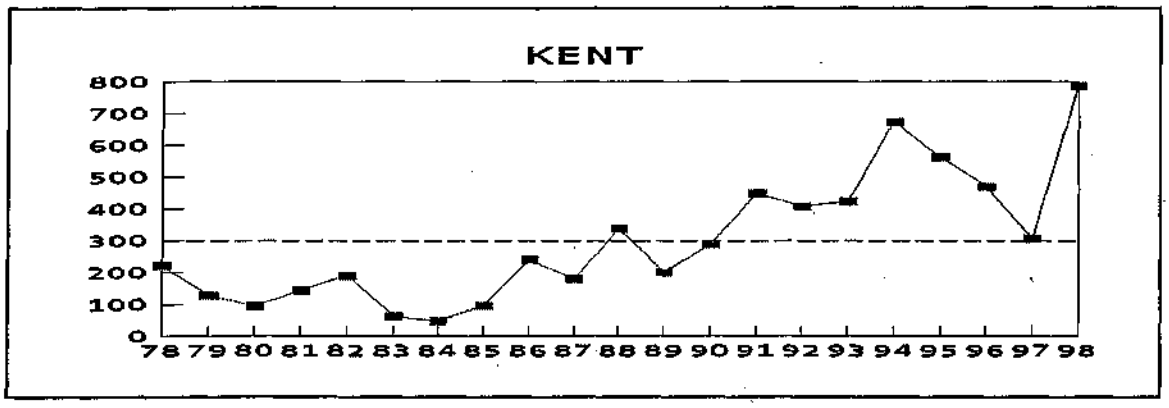


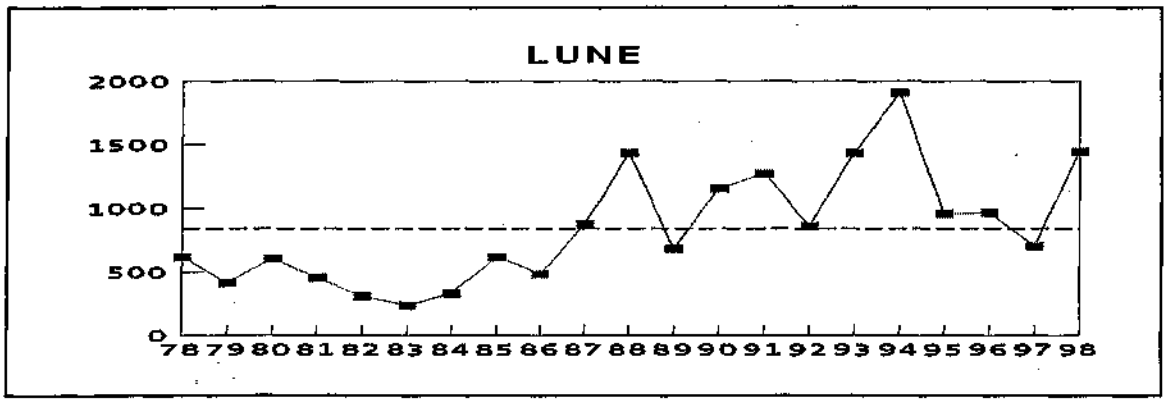


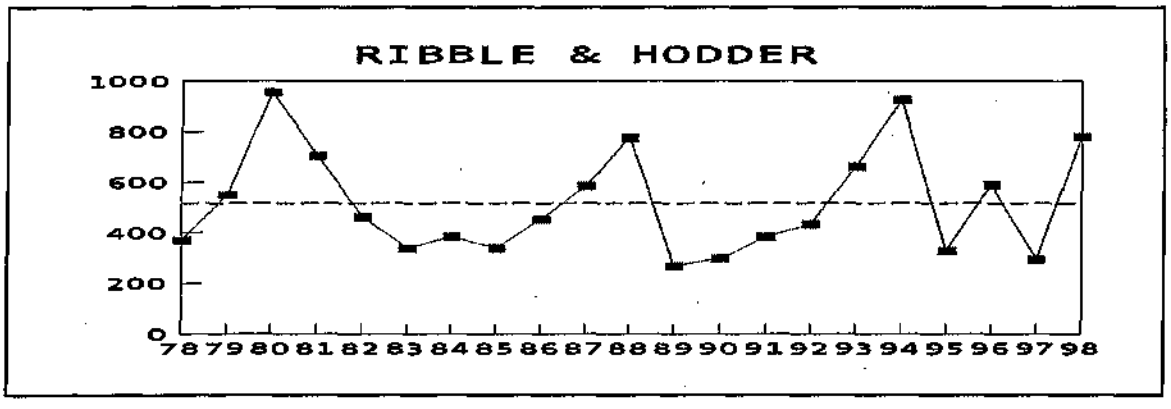


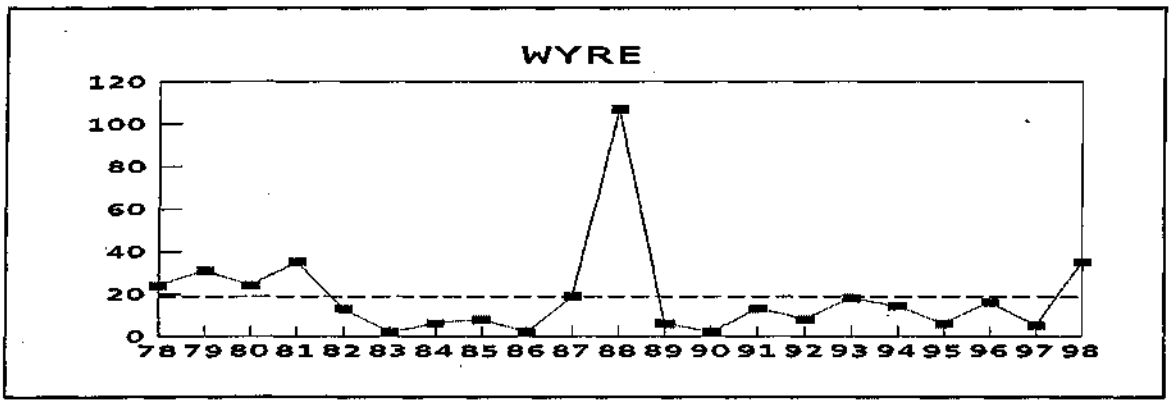


DECLARED SALMON ROD CATCHES 1978-1998 AND LONG TERM AVERAGE

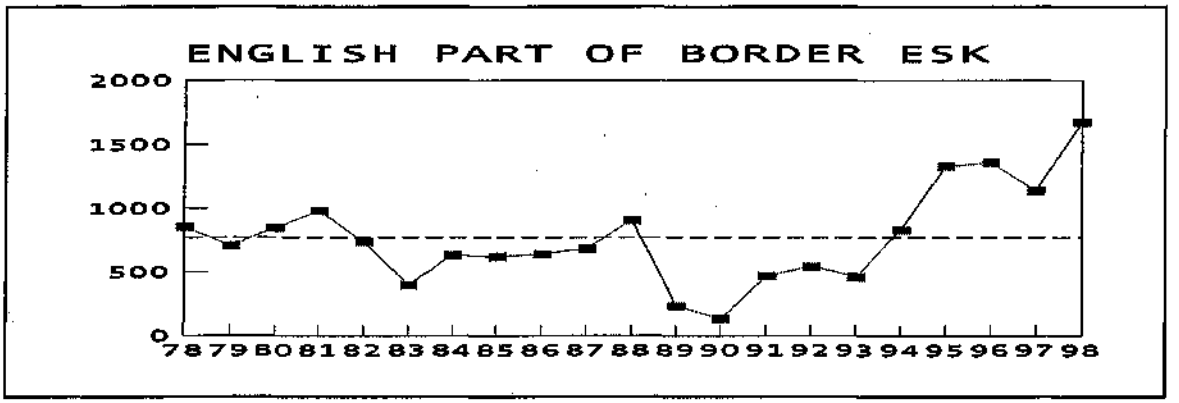


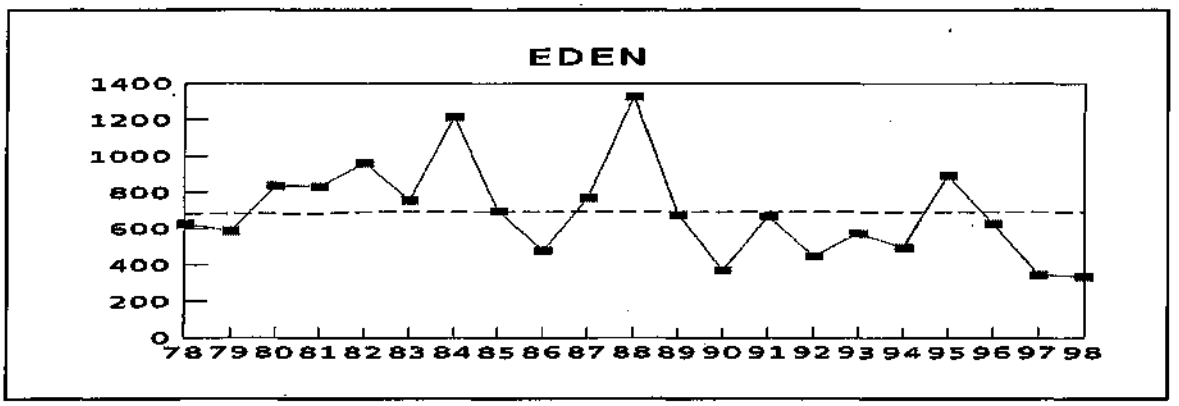


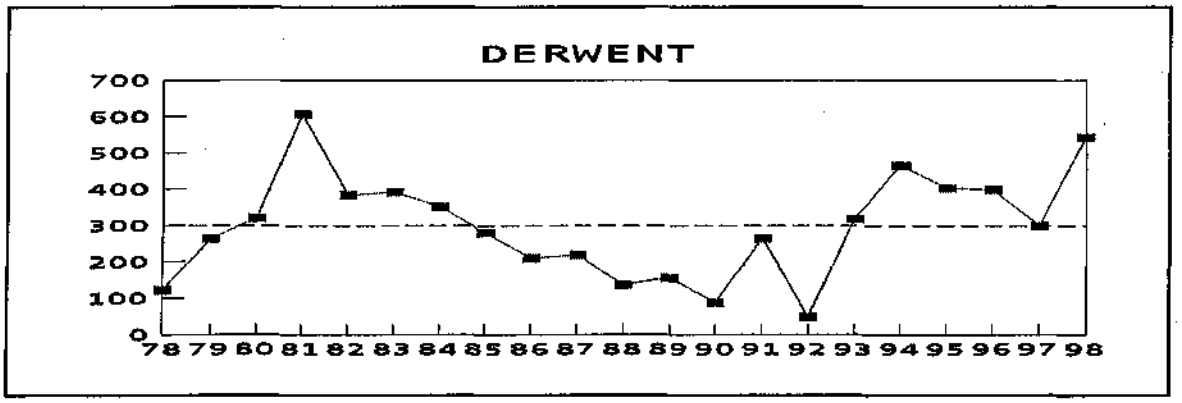


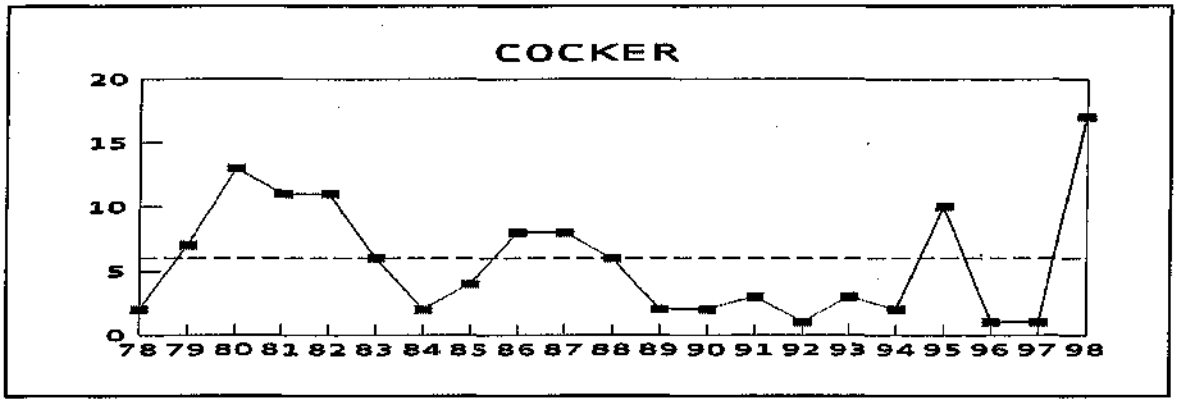


DECLARED SEA TROUT ROD CATCHES 1978-98 AND LONG TERM AVERAGE

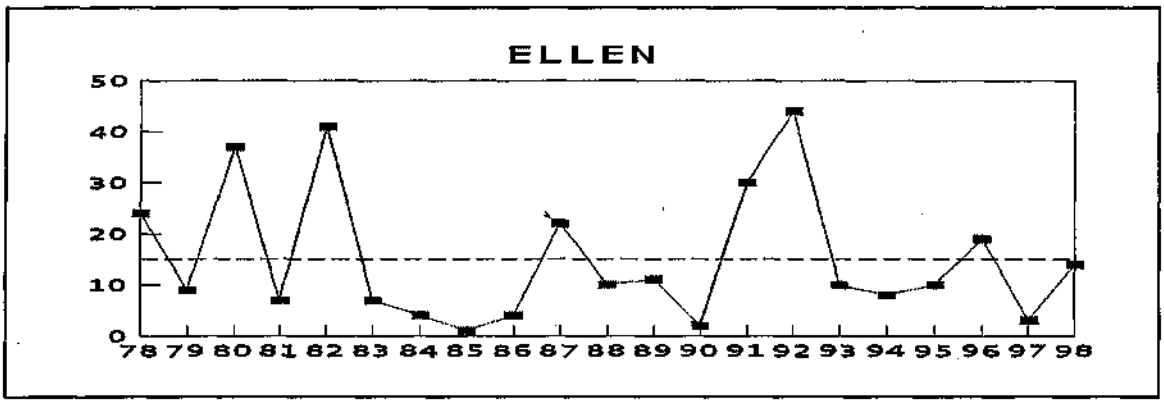


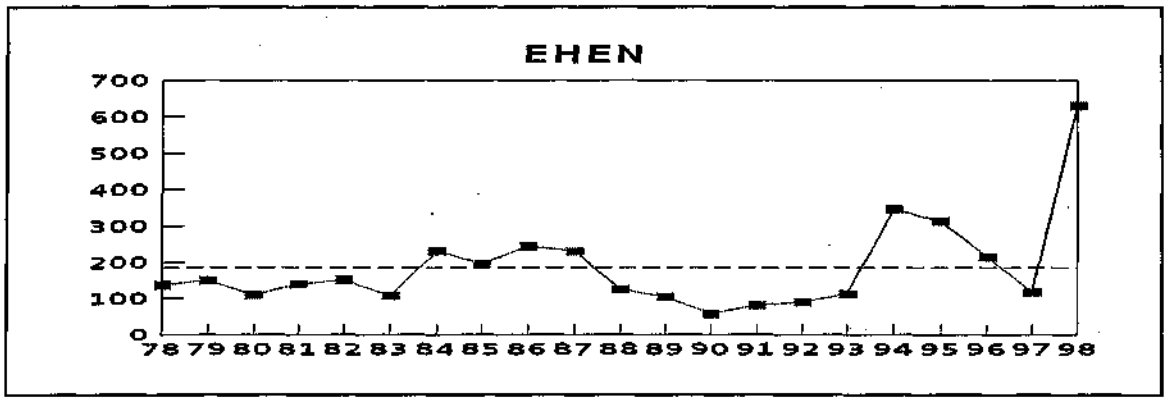


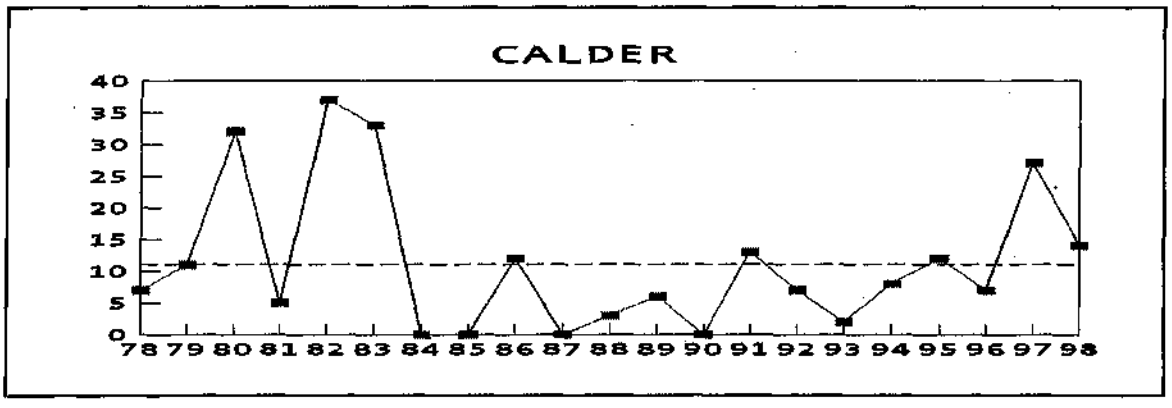


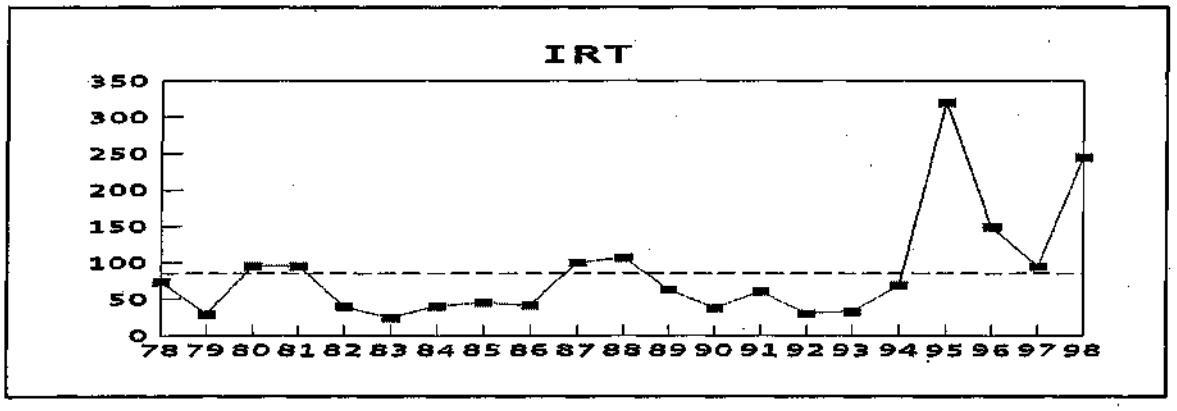


DECLARED SEA TROUT ROD CATCHES 1978-98 AND LONG TERM AVERAGE

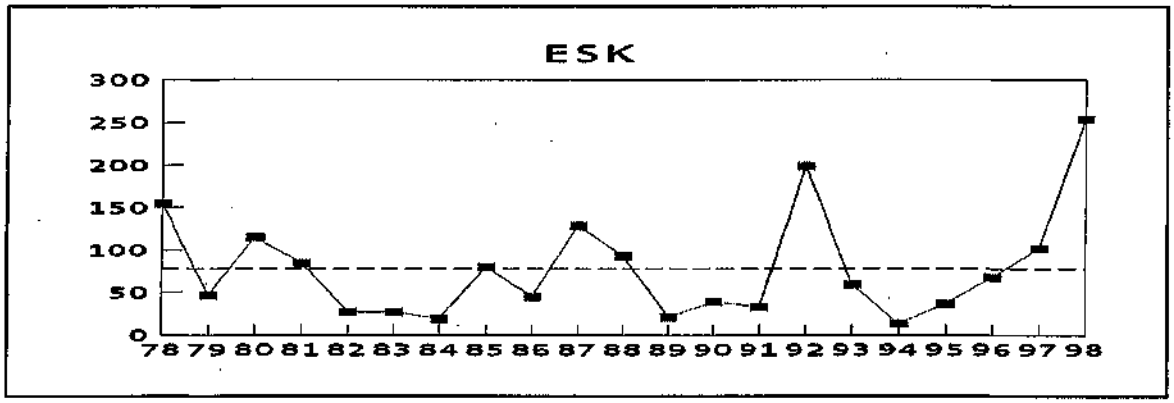


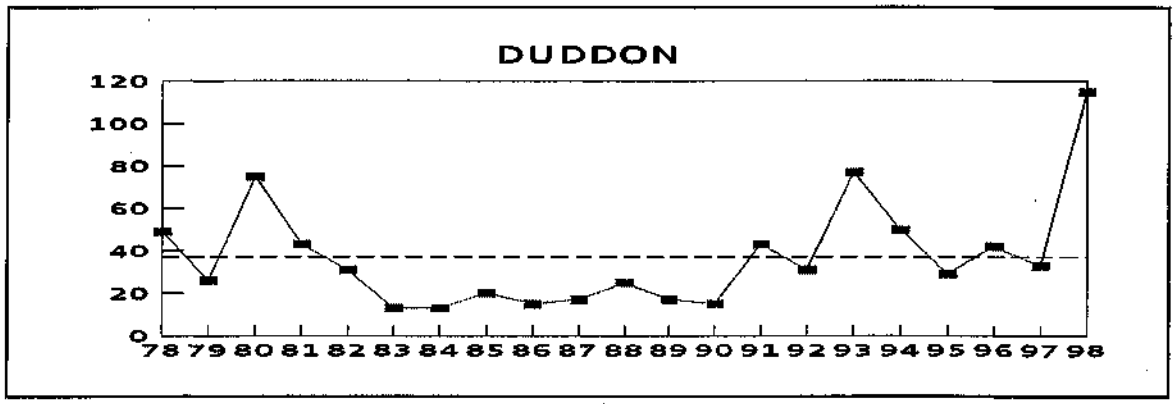


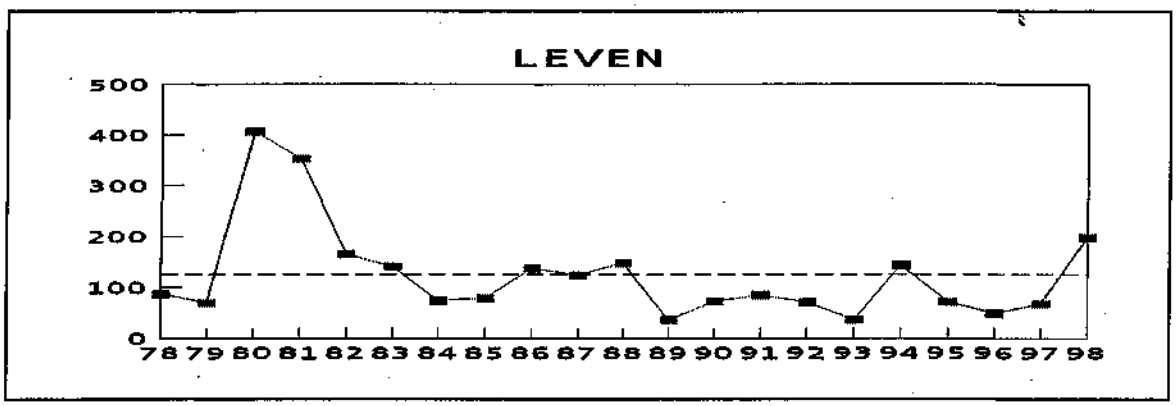


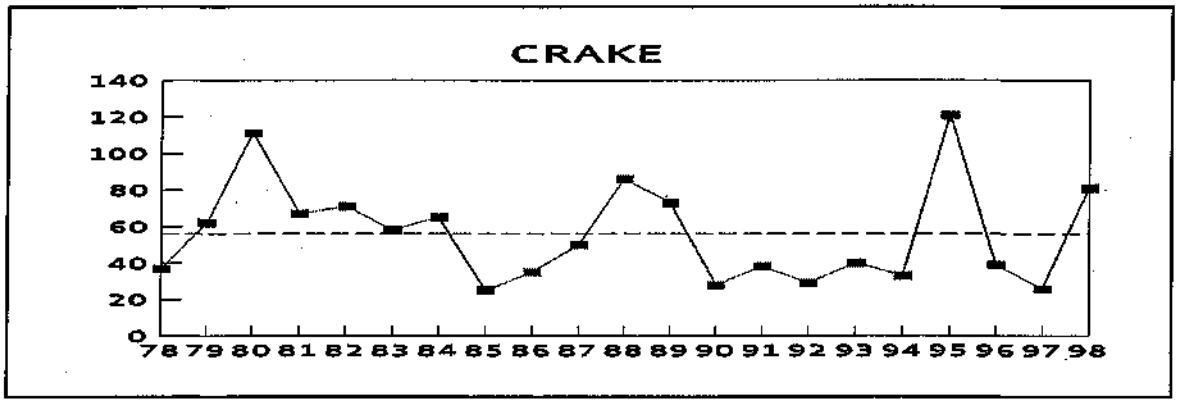


DECLARED SEA TROUT ROD CATCHES 1978-98 AND LONG TERM AVERAGE

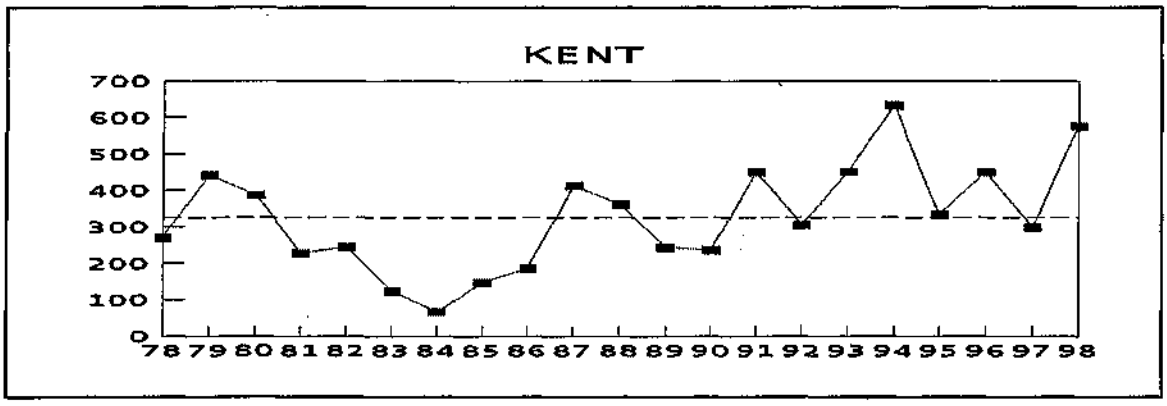


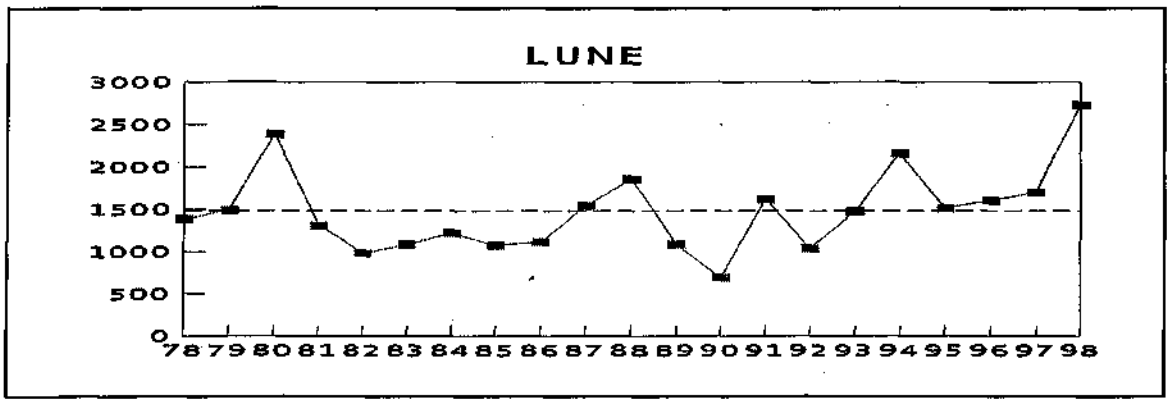


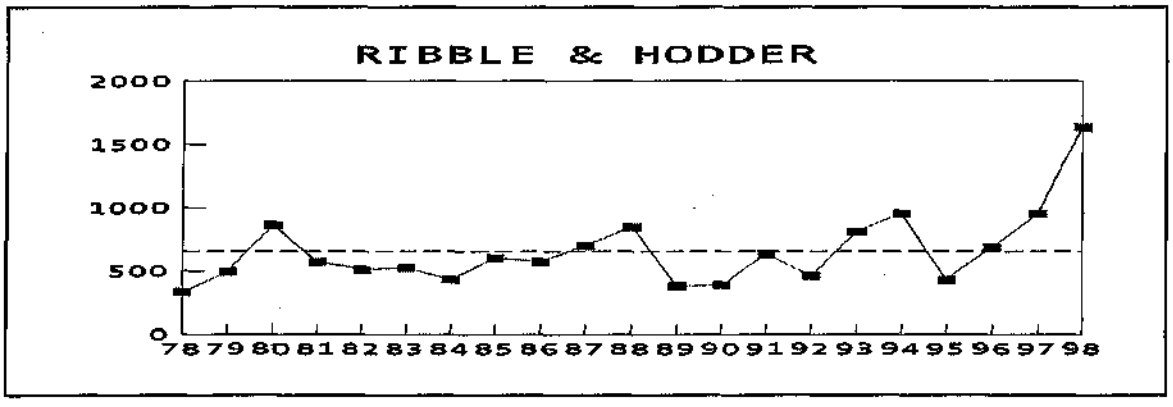


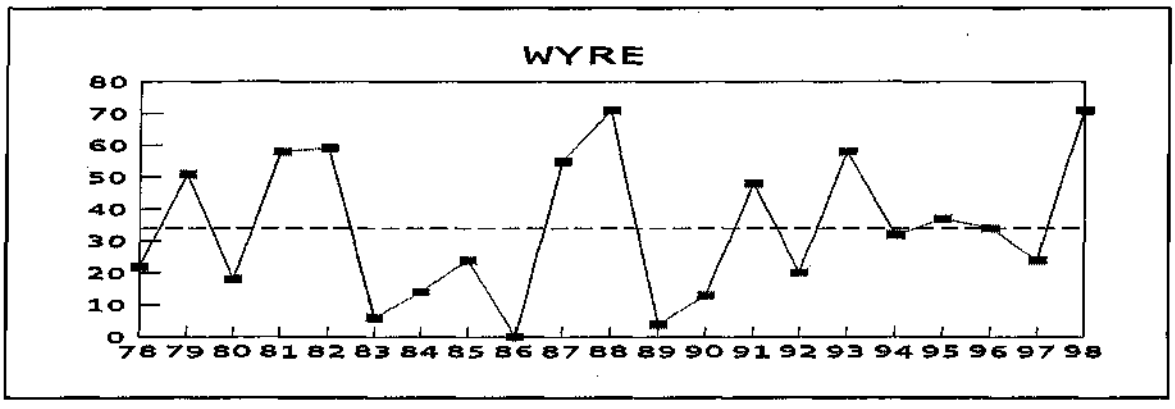


DECLARED SEA TROUT ROD CATCHES 1978-98 AND LONG TERM AVERAGE

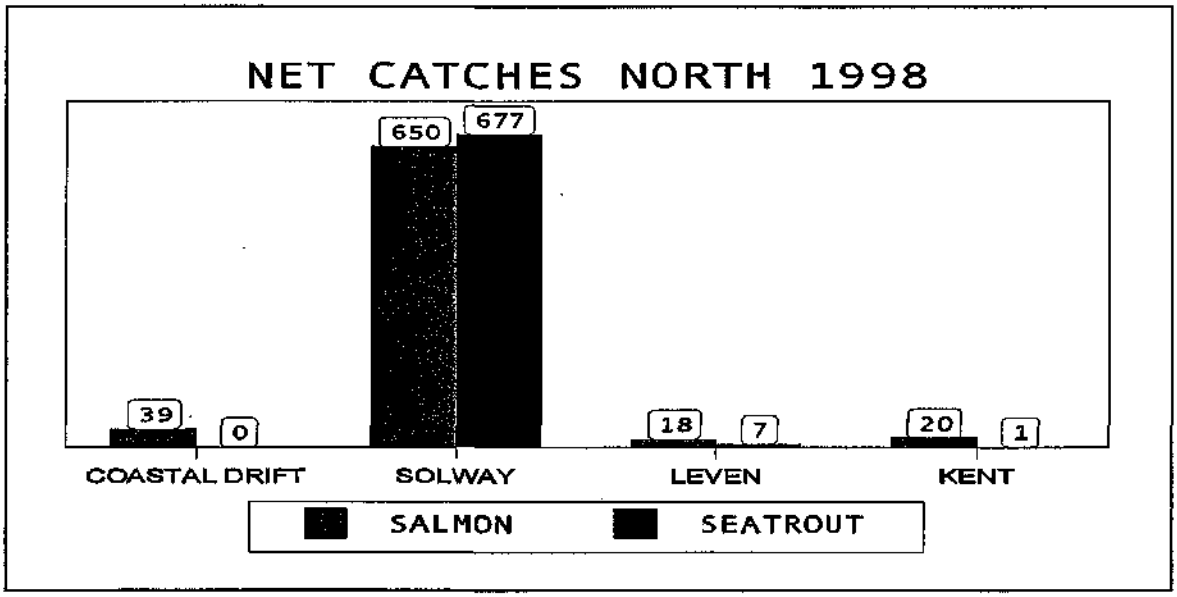


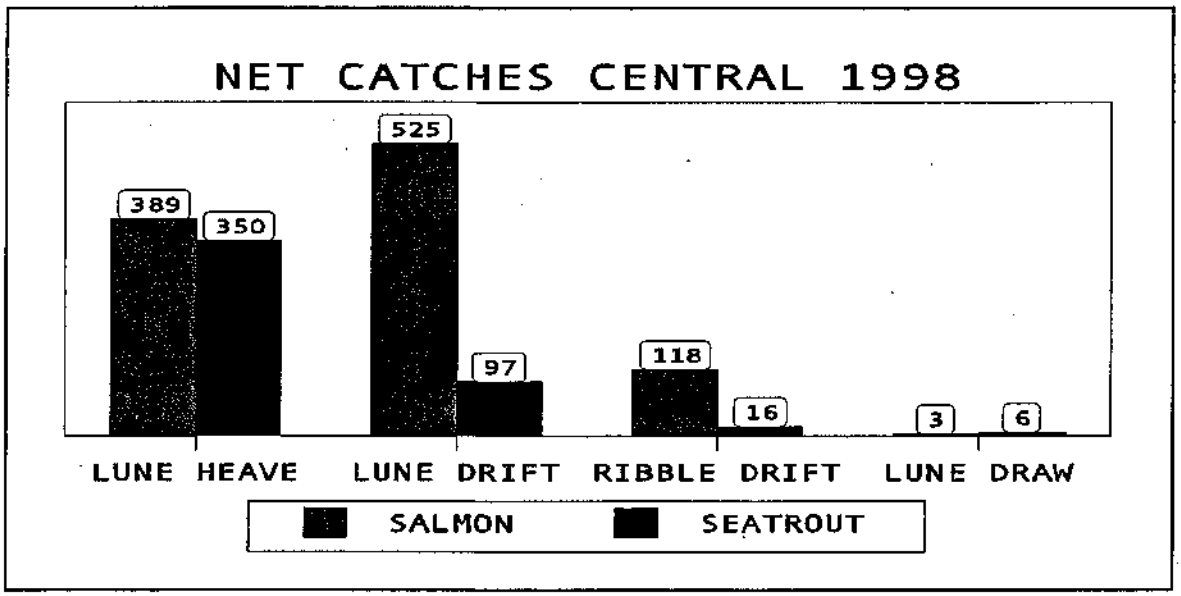




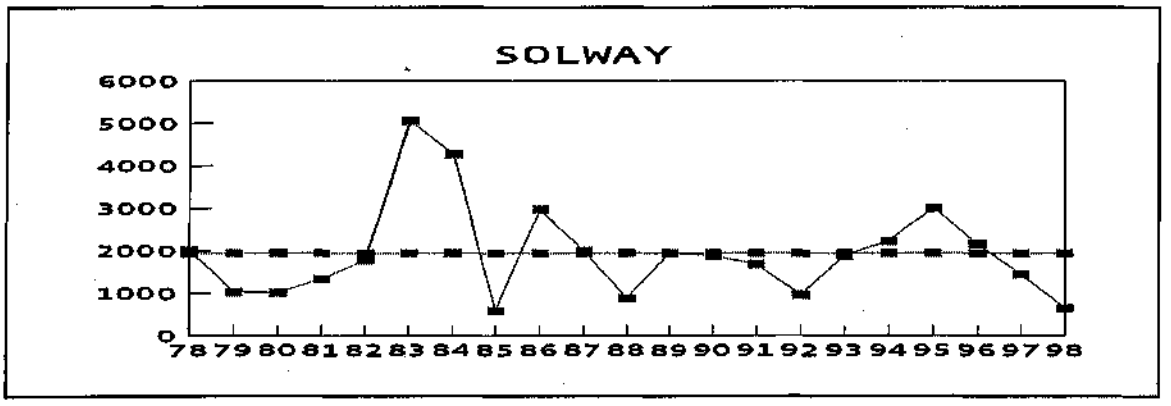


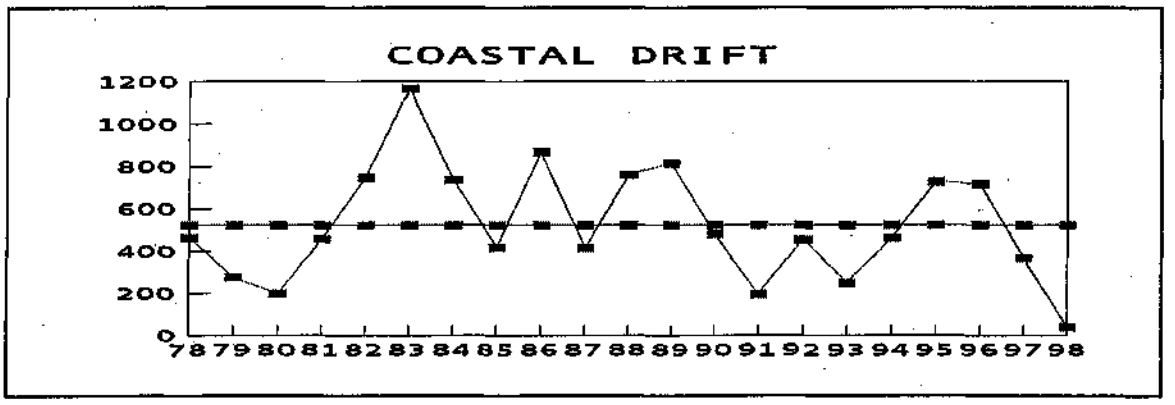
SALMON AND SEA TROUT NET CATCHES 1978-1998
NET FISHERIES 1998

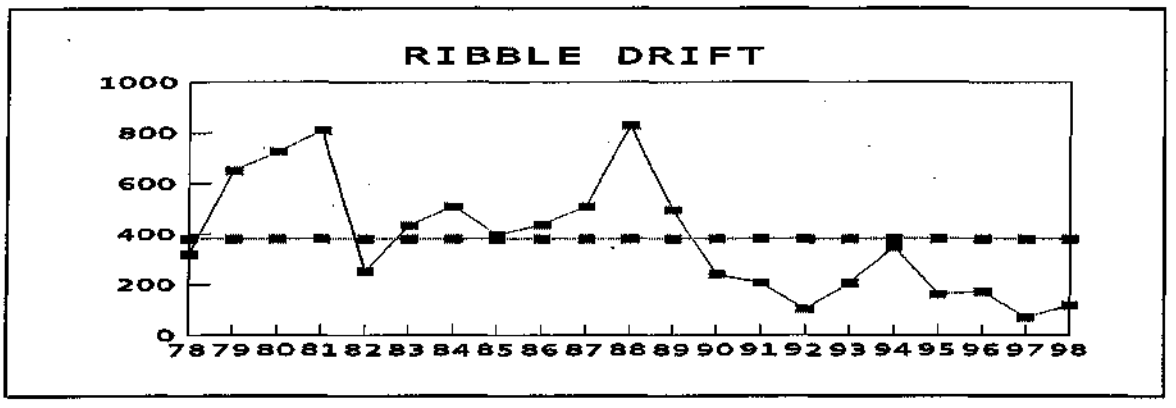


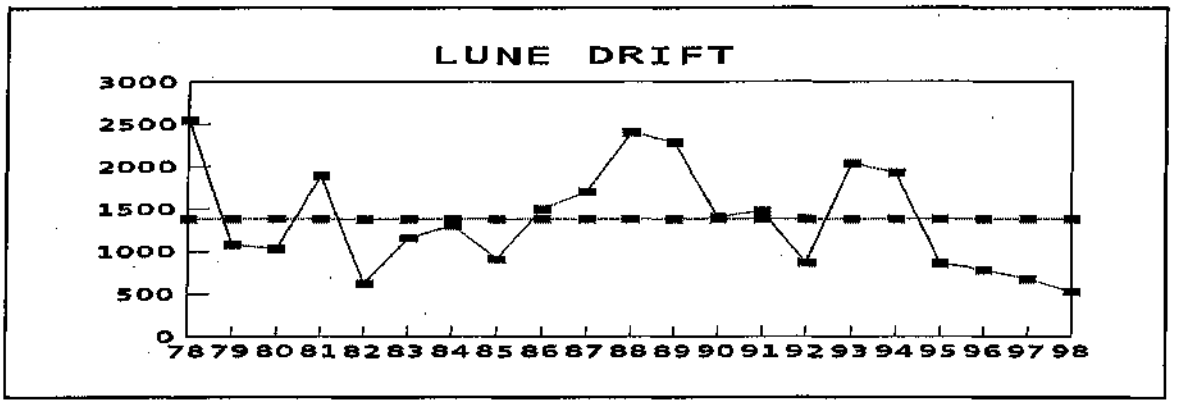


SALMON NET CATCHES 1978-1998 INCLUDING LONG TERM AVERAGE

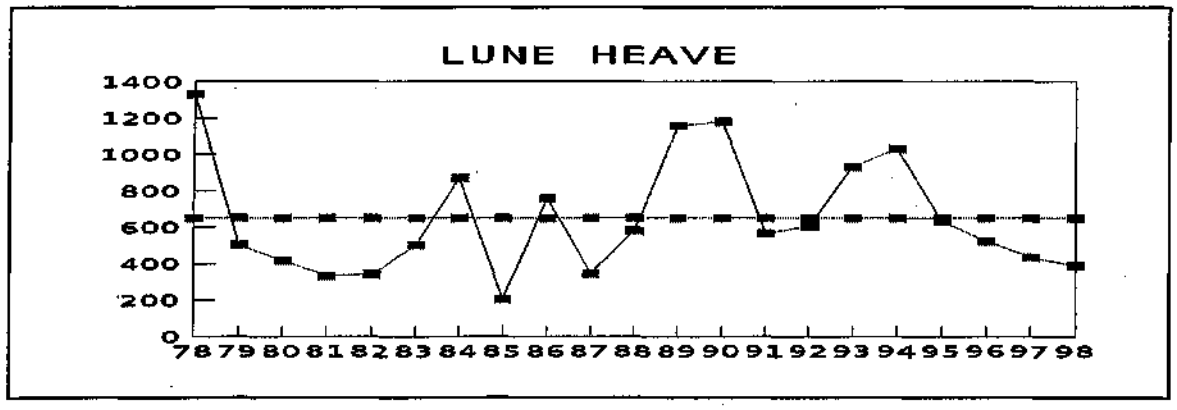


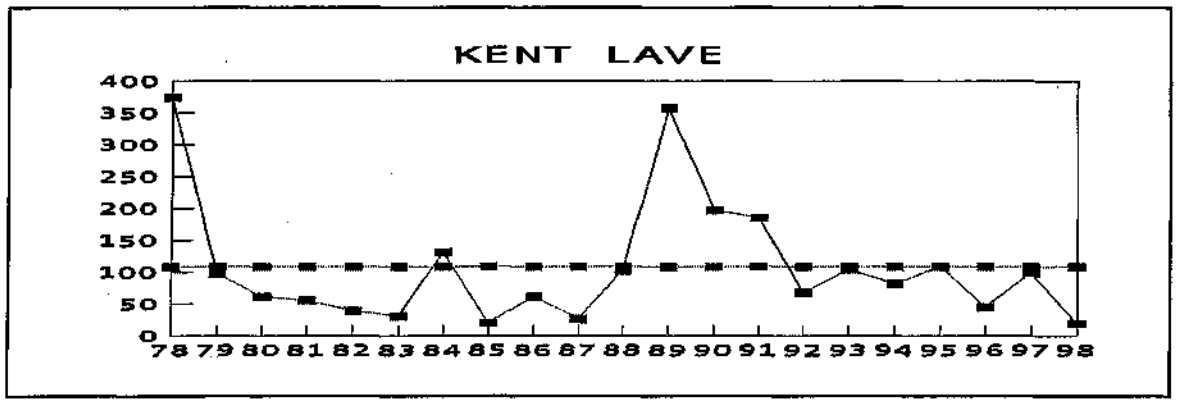


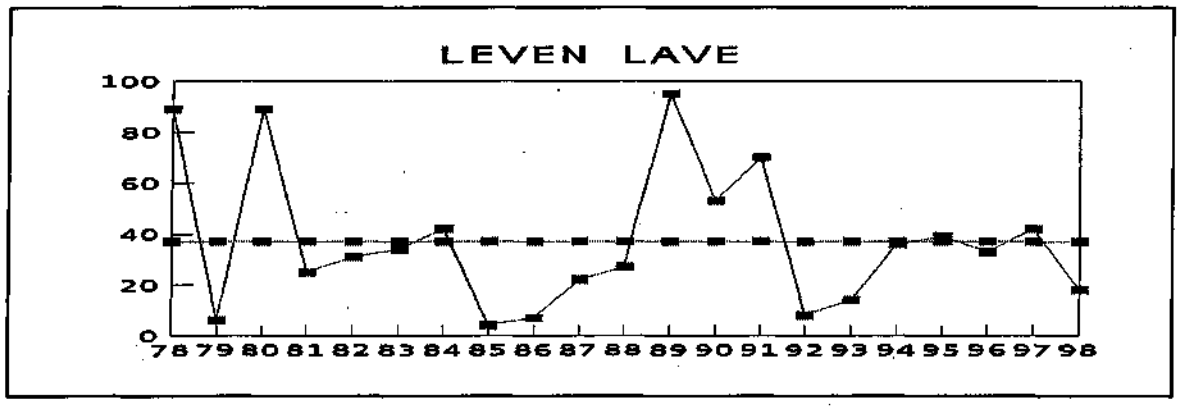


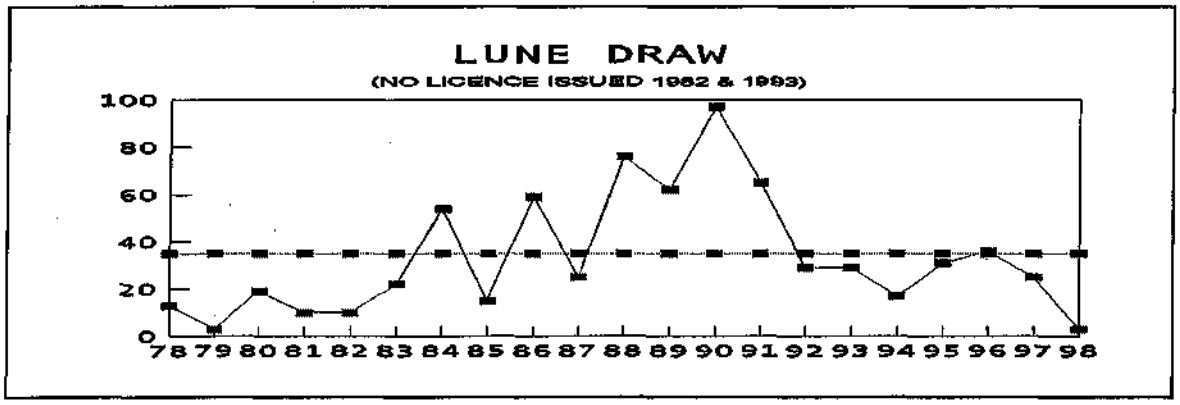


SALMON NET CATCHES 1978-1998 INCLUDING LONG TERM AVERAGE

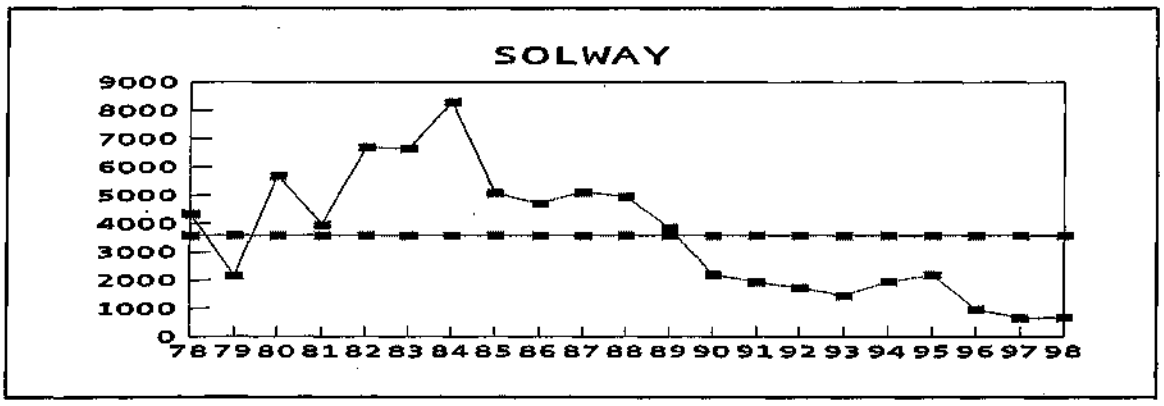


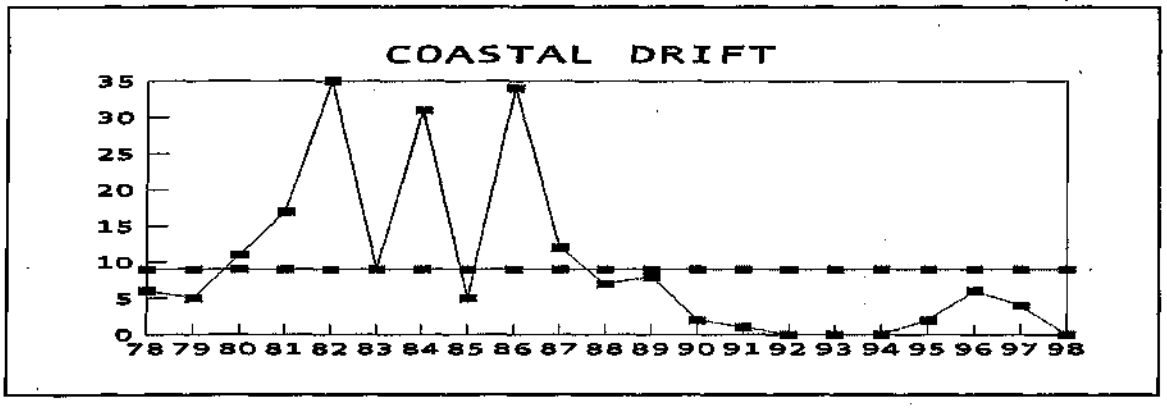


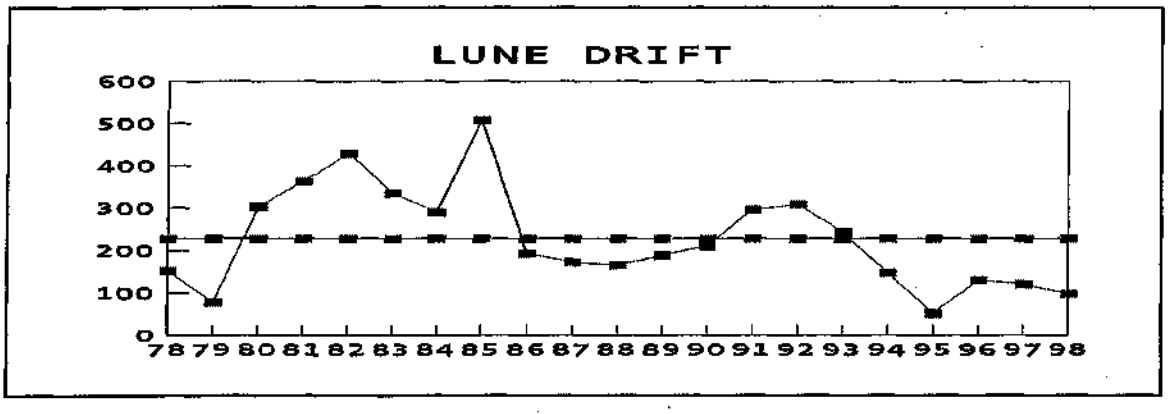


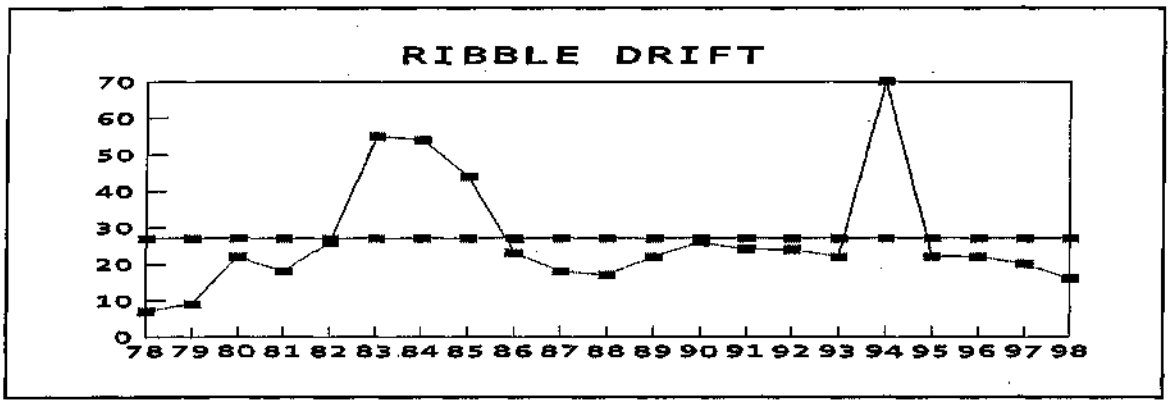


SEA TROUT NET CATCHES 1978-1998 INCLUDING LONG TERM AVERAGE

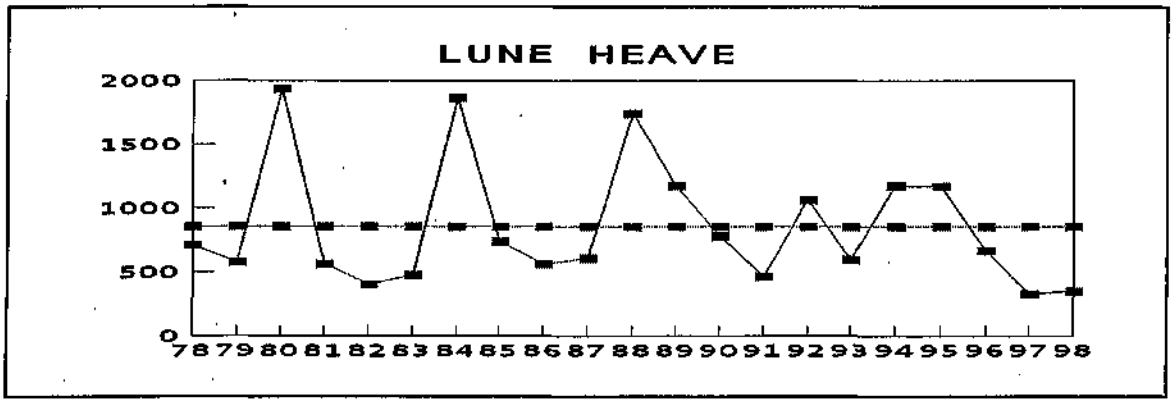


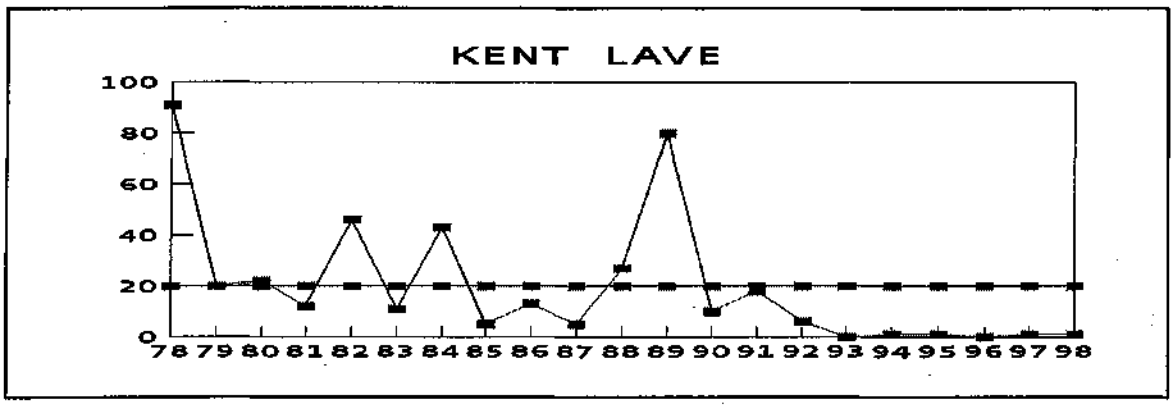


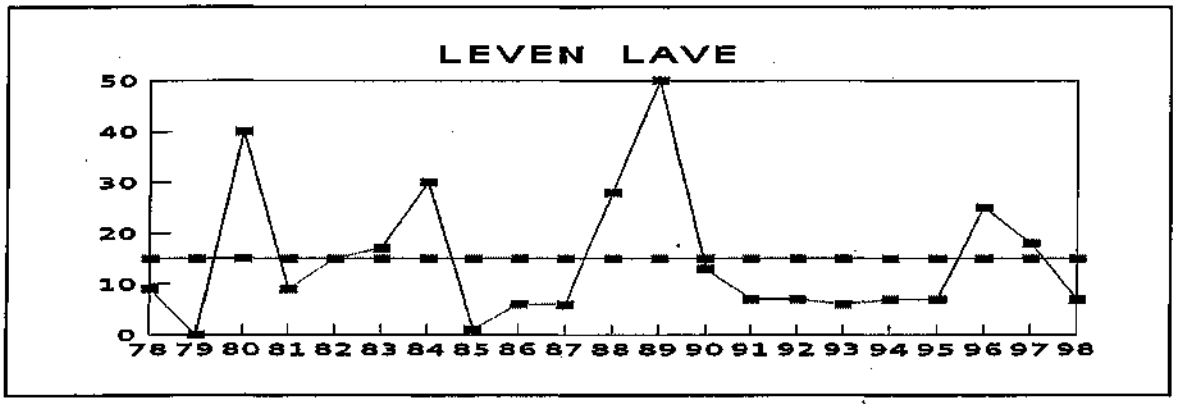


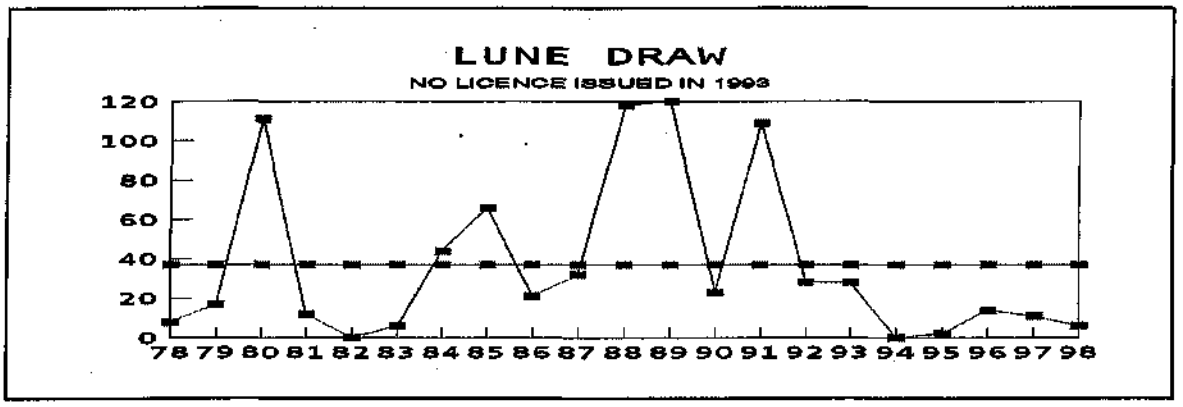


SEA TROUT NET CATCHES 1978-1998 INCLUDING LONG TERM AVERAGE

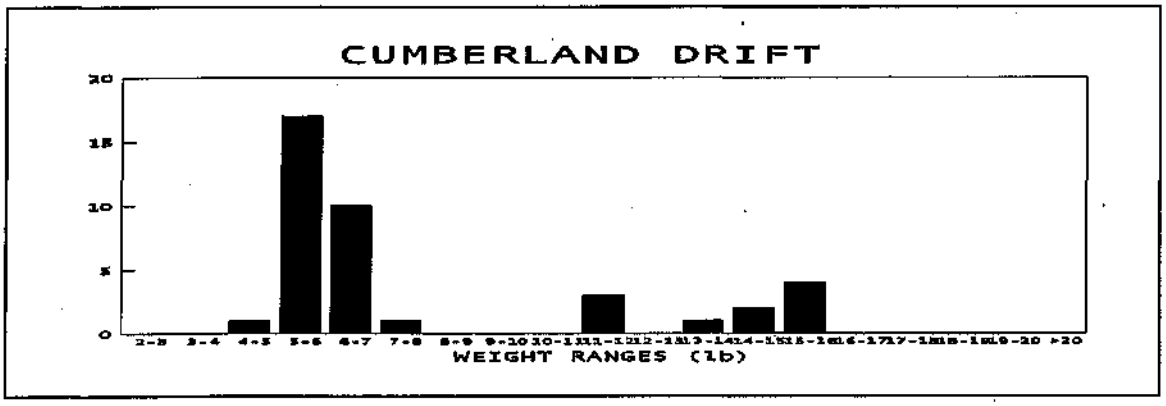


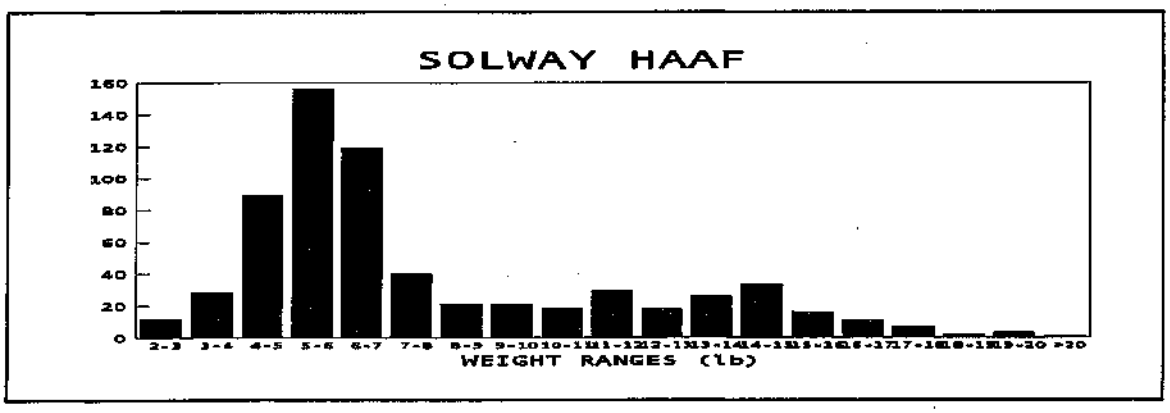


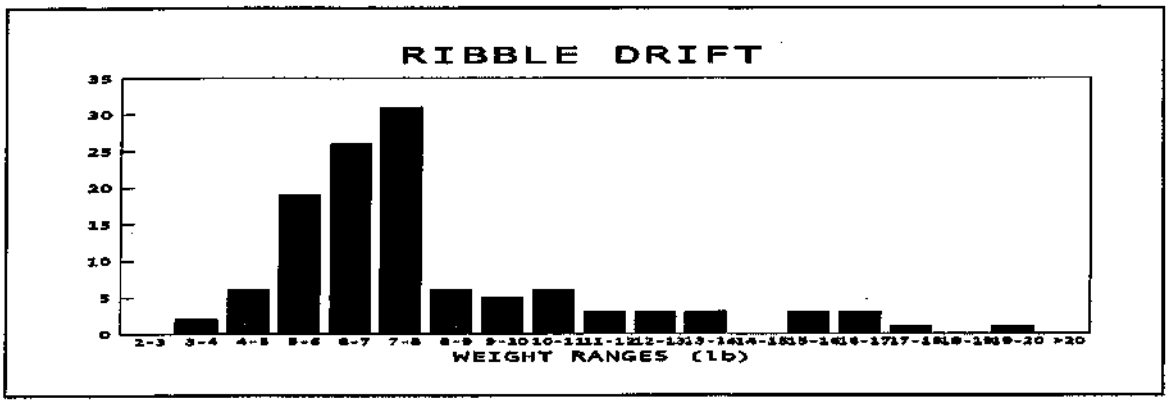


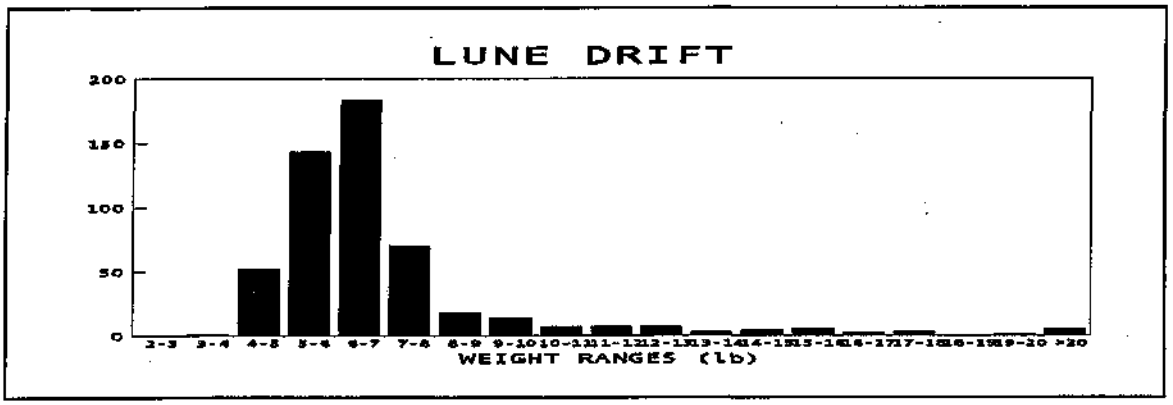


SALMON WEIGHT DISTRIBUTION 1998

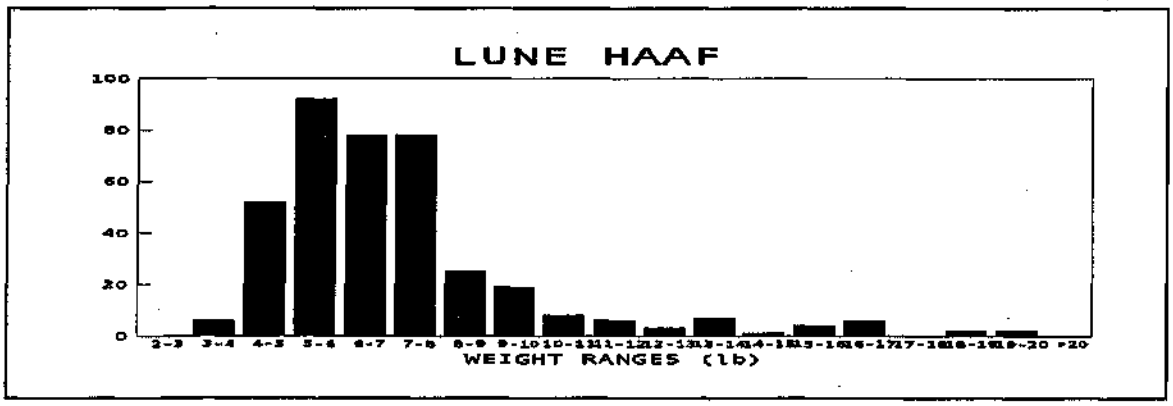


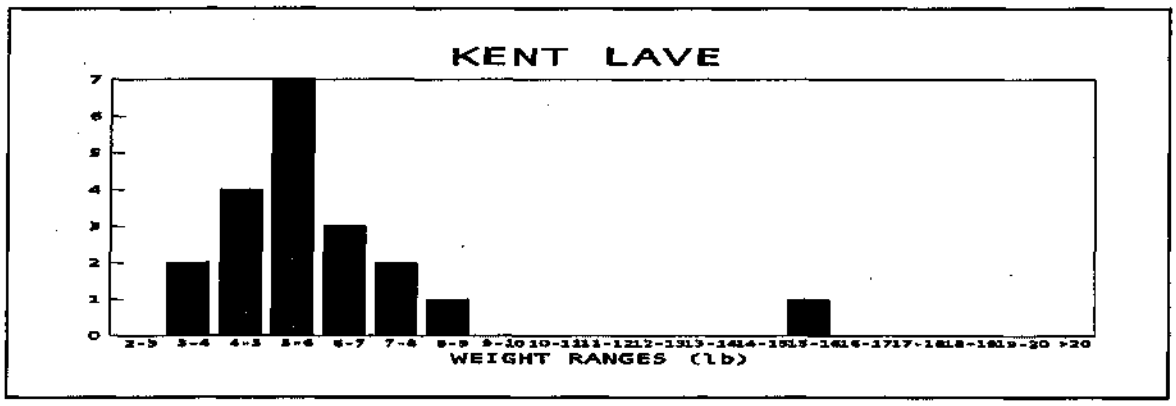


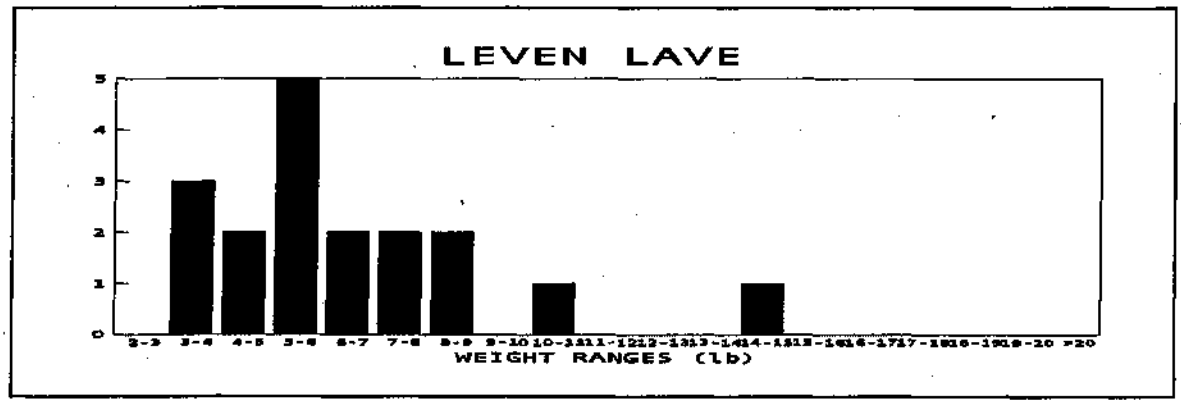


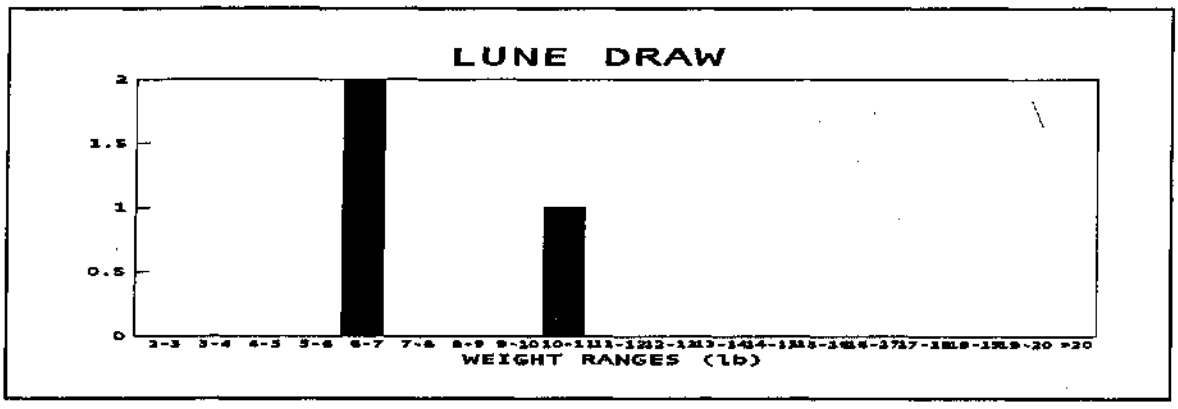


SALMON WEIGHT DISTRIBUTION 1998

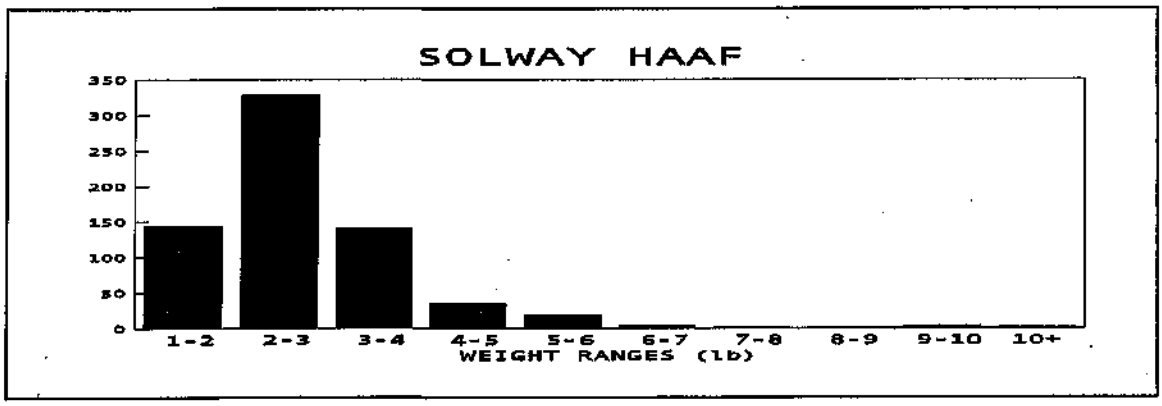


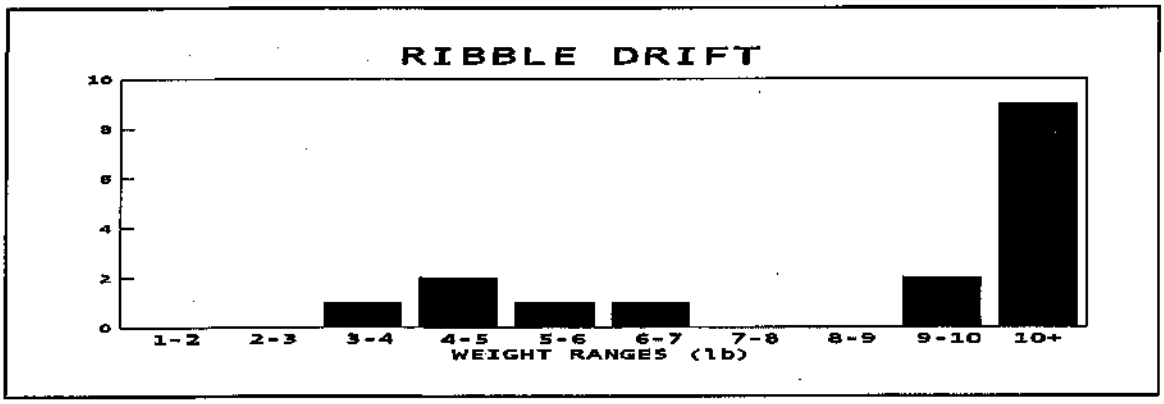


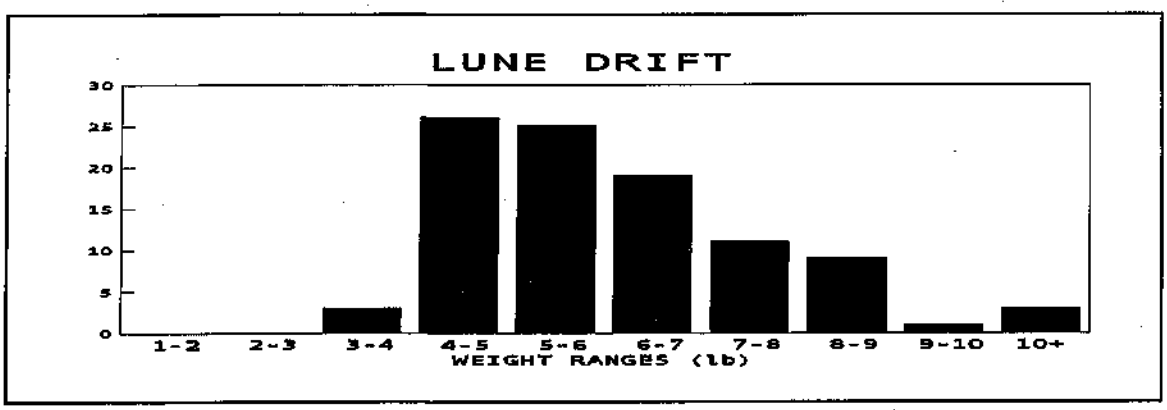


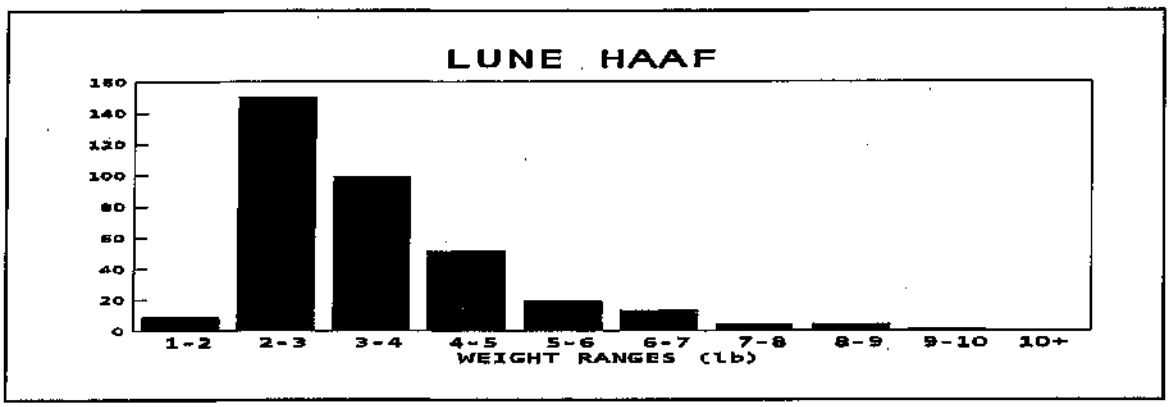


SEA TROUT WEIGHT DISTRIBUTION 1998









SUMMARY OF FISHERIES STATISTICS 1998

CONTENTS Page

1 CATCH STATISTICS

1.1 Rod and Line - Information from Anglers' returns

1.1.1 Salmon Rod Catches by River and Month 1998

River	Undated	Jan	Feb	March	April	May	June	July	Aug	Sept	Oct	Total	Av.Weight (lb)
Border Esk (England)	30		1				3	69	107	156	262	628	8.13
Eden	12	6	11	26	20	16	25	138	331	360	165	1110	7.89
Derwent	21			1	2	2	7	66	186	224	214	723	7.73
Cocker									1	4	9	14	6.85
Ellen							3	1	9	8	10	31	5.72
Ehen	1						10	50	119	76	102	358	6.47
Calder	1						5	6	17	13	54	96	6.12
Irt							4	10	37	30	63	144	6.28
Esk	1							8	17	18	28	72	7.21
Duddon									10	8	17	35	6.65
Leven & Brathay							3	2	12	17	7	41	6.06
Crake									5	4	32	41	5.63
Kent			3		5	7	45	130	177	153	266	786	6.2
Lune	22		5	2	8	3	11	80	212	316	789	1448	7.5
Ribble	22		1	1	2	1	12	70	125	159	201	594	7.12
Hodder	4		1				1	7	19	34	118	184	7.32
Wyre									2	9	24	35	5.94
Others*							1	3	1	6	8	19	5.78
TOTALS	**114**	**6**	**22**	**30**	**37**	**29**	**130**	**640**	**1387**	**1595**	**2369**	**6359**	**7.3**

* Includes : Annas, Bela, Burrow Beck

1.1.1 Salmon Rod Catches, Historical Data

	1993		1994		1995		1996		1997	
River	No.	Av.Wt (lb)	No.	Av.Wt (lb)	No.	Av.Wt (lb)	No.	Av.Wt (lb)	No.	Av.Wt (lb)
Border Esk (England)	207	8	747	8.8	938	8.8	645	9.34	651	651
Eden	1425	8.9	2636	9.4	2082	8.2	1864	8.77	1229	845
Derwent	664	8.5	1094	8.4	792	8	611	8.37	563	799
Cocker	3	8.3	23	7.1	52	7.8	18	7.33	9	636
Ellen	6	7	9	5.1	1	6	8	5.78	3	513
Ehen	92	6.9	298	6.9	264	6.7	203	6.45	130	701
Calder	14	7.7	40	6.2	46	6.2	50	6.47	65	596
Irt	31	6.4	153	6.4	157	6.4	120	6.64	81	630
Esk	37	8.7	64	9.1	19	6.1	43	6.96	25	625
Duddon	19	5.3	21	6.3	17	6.1	17	6.47	11	680
Leven and Brathay	31	6.3	160	7.2	82	7.6	48	7.65	50	634
Crake	4	6.75	30	6.7	34	5.3	21	6.39	8	523
Kent	422	6.5	673	6.6	562	6.2	469	6.66	306	633
Lune	1434	7.8	1909	8.8	958	8	963	8.85	702	763
Ribble	608	8.2	819	8.8	319	8.4	517	9.75	232	853
Hodder	52	8.25	106	8.5	10	7.5	71	9.14	61	783
Wyre	18	6.35	14	5.5	6	4.6	16	5.5	5	660
Others*	47	8.3	16	7	9	5.5	36	6	13	558
TOTALS & AV.WTS	**5114**	**7.45**	**8812**	**8.6**	**6348**	**7.9**	**5720**	**8.5**	**4144**	**784**

* Includes : Annas, Bela, Keer

1.1.1 SALMON ROD CATCHES 1977-97 NUMBERS

	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	Ave
BORDER ESK	100	75	89	138	114	108	269	135	88	267	139	304	252	342	511	332	207	747	938	645	651	307
EDEN	391	862	556	578	453	512	653	697	691	756	839	1237	1046	1522	1766	1378	1425	2636	2082	1864	1229	1103
DERWENT	628	473	462	831	608	623	315	569	1062	532	803	1449	941	871	1028	559	664	1094	792	611	563	737
COCKER	118	79	83	93	53	97	30	35	21	25	21	12	27	8	37	11	3	23	52	18	9	41
ELLEN	14	29	35	40	38	102	26	16	26	12	29	41	32	28	23	22	6	9	1	8	3	26
EHEN	79	75	45	97	36	79	38	63	110	77	117	265	187	100	174	191	92	298	264	203	130	130
CALDER	31	21	8	20	19	12	4	20	3	4	4	23	48	5	39	17	14	40	46	50	65	23
IRT	59	79	30	68	64	27	28	48	69	77	48	106	116	38	153	74	31	153	157	120	81	77
ESK	42	9	28	15	15	7	4	2	38	43	25	51	11	21	48	190	37	64	19	43	25	35
DUDDON	27	7	20	15	5	23	5	7	31	38	28	47	20	37	24	25	19	21	17	17	11	21
LEVEN	73	15	22	50	34	75	26	19	48	33	46	151	42	73	123	118	31	160	82	48	50	63
CRAKE		13	17	37	14	54	26	18	9	30	22	88	34	38	55	40	4	30	34	21	8	30
KENT	137	222	128	93	143	189	63	47	97	239	179	338	200	289	448	408	422	673	562	469	306	269
LUNE	504	620	414	607	456	310	235	330	617	485	874	1434	683	1154	1274	860	1434	1909	958	963	702	801
RIBBLE*	315	370	550	956	704	462	338	384	339	452	586	774	268	298	383	433	660	925	329	588	293	496
WYRE	9	24	31	24	35	13	2	6	8	2	19	107	6	2	13	8	18	14	6	16	5	18
OTHERS **		5	8	22	5	2		4	3	8	3	1	14	11	7	3	47	16	9	36	13	11
TOTAL REGION	**2527**	**2978**	**2526**	**3684**	**2796**	**2695**	**2062**	**2400**	**3260**	**3080**	**3782**	**6428**	**3927**	**4837**	**6106**	**4669**	**5114**	**8812**	**6348**	**5720**	**4144**	**4185**

* Includes Hodder

** Includes : Annas, Bela, Keer

1.1.1 SALMON ROD CATCHES 1977-97 AVERAGE WEIGHTS IN lb

	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	Ave
BORDER ESK	7.69	8.96	8.62	9.01	11.1	8.65	9.21	9.18	9.32	9.42	8.21	8.32	8.33	9.54	8.3	9.5	8	8.8	8.8	9.34	8.9
EDEN	10.1	10.2	11.8	10.4	11.3	8.96	8.61	9.14	9.97	10.1	9.49	9.16	8.49	9.41	8.92	8.75	8.9	9.4	8.2	8.77	9.46
DERWENT	8.04	8.97	8.34	8.38	9.33	7.93	8.12	7.75	8.42	8.89	8.88	8.33	8.41	8.37	8.35	8.5	8.5	8.4	8	8.37	8.39
COCKER	8.02	7.9	7.5	7.6	8.13	7.03	7.99	6.71	7.38	7.88	7.67	8.2	6.94	9.59	7.01	8.2	8.3	7.1	7.8	7.33	7.64
ELLEN	4.84	6.09	5.56	7.44	6.67	5.95	5.78	5.14	6.8	6.17	5.83	7.03	6.92	6.16	6.83	6	7	5.1	6	5.78	6.10
EHEN	6.9	6.71	6.95	6.34	7.5	5.98	5.95	6.37	7.36	7.41	6.95	7.22	6.41	6.9	6.52	6.9	6.9	6.9	6.7	6.45	6.77
CALDER	6.1	7.13	6.25	6.66	6.67	5.02	7.13	5.86	7.66	9.38	5.12	6.64	6.78	7.55	6.49	6.3	7.7	6.2	6.2	6.47	6.63
IRT	8.19	7.45	7.01	6.45	7.02	6.23	7.67	6.37	6.4	7.47	7.38	7.32	6.94	6.66	6.83	6.3	6.4	6.4	6.4	6.64	6.84
ESK	7.5	9.5	7.84	7.37	9.3	5.57	6.25	8	7.66	10.7	11.7	7.64	4.91	5.93	9.7	8.1	8.7	9.1	6.1	6.96	7.85
DUDDON	6.92	6.75	7.9	8.3	8.25	7.96	6.4	6.96	7.17	6.73	7.34	7.44	7.22	6.64	6.95	6.8	5.3	6.3	6.1	6.47	6.98
LEVEN	6.47	7.45	6.25	6.12	8.1	5.17	6.38	6.68	6.63	6.83	6.67	6.66	6.54	7.66	7.21	6.7	6.3	7.2	7.6	7.65	6.79
CRAKE		7.63	4.72	6.11	6.1	5.29	4.48	6.25	7.36	5.93	5.99	6.26	6.28	6.58	6.51	6.6	6.75	6.7	5.3	6.39	6.12
KENT	5.9	6.1	6.38	6.21	7.44	5.85	7.12	5.4	6.75	6.31	7.98	6.79	5.59	6.97	6.62	6.5	6.5	6.6	6.2	6.66	6.48
LUNE	7.57	8.87	9.86	8.48	10.9	7.52	8.13	7.49	9.33	8.77	8.11	8.26	8.15	8.95	8.5	8.7	7.8	8.8	8	8.85	8.51
RIBBLE*	9.36	9.22	8.84	9	10.8	8.24	8.69	7.68	10.2	9.82	9.14	8.99	8.67	8.52	8.77	9.2	8.22	8.6	8.4	9.68	8.97
WYRE	6.76	5.38	4.76	4.96	6.42	6.38	5.13	5.13	5	12	6.55	7.74	5.33	4.75	5.63	5.2	6.35	5.5	4.6	5.5	5.98
OTHERS **		8.3	2.9	4.52	2.5	1	6.5	6.9	6.92	5.44	6.38	5.25	5.36	5.69	6.39	4	8.3	7	5.5	6	5.52

* Includes Hodder

** Includes : Annas, Bela, Keer

1.1.2 Migratory Trout Rod Catches by River and Month - 1998

River	Undated	May	June	July	August	September	October	Total	Average Weight (lb)
Border Esk (England)	67	69	327	772	292	98	46	1671	1.54
Eden	6	18	62	75	93	64	20	338	1.83
Derwent	1	5	39	113	205	132	49	544	1.35
Cocker			1	4	1	5	6	17	3.27
Ellen	1			2		9	2	14	1.54
Ehen	2		35	122	183	227	62	631	1.14
Calder	1		1		4	4	4	14	1.99
Irt			3	50	100	38	53	244	1.35
Esk	7		54	86	69	22	16	254	1.56
Duddon	1		1	18	53	35	7	115	0.93
Leven, Brathay & Rothay	2	2	14	42	54	56	28	198	1.43
Crake			5	16	14	25	21	81	1.04
Kent	62	16	86	166	143	86	17	576	1.93
Lune	231	53	359	812	523	557	195	2730	1.71
Ribble	91	35	75	234	191	204	79	909	1.71
Hodder	59	4	51	299	217	68	28	726	1.90
Wyre			7	26	17	14	7	71	1.60
Others*				19	19	11	2	51	1.77
TOTALS	**531**	**202**	**1120**	**2856**	**2178**	**1655**	**642**	**9184**	**1.62**

* Includes : Annas, Bela, Keer, Stock Ghyll

1.1.2 Migratory Trout Rod Catches - Historical Data

River	No.	Av.Wt(lb)	No.	Av.Wt (lb)	No.	Av.Wt (lb)	No.	Av.Wt (lb)	No.	Av.Wt (lb)
Border Esk (England)	461	1.5	826	1.5	1327	1.4	1357	1.3	1135	150
Eden	575	1.5	497	2	894	1.6	629	1.71	348	189
Derwent	318	1.3	465	1.6	403	1.5	399	1.55	299	167
Cocker	3	2	2	1	10	2.4	1	0.81	1	460
Ellen	10	0.9	8	1.1	10	1.4	19	1.05	3	77
Ehen	112	1.3	345	1.4	313	1.3	215	1.27	117	169
Calder	2	4.4	8	2.5	12	2.1	7	2.83	27	153
Irt	33	1.3	68	2.3	320	1.4	149	1.28	94	159
Esk	59	1.3	13	1.7	37	2.2	68	1.72	102	135
Duddon	77	1.8	50	1.4	29	1.2	42	1.16	33	125
Leven	37	1.8	144	2	72	1.7	49	1.63	68	108
Crake	40	1.4	33	1.7	121	1.2	39	1.41	26	133
Kent	451	1.6	633	1.6	333	1.4	450	1.59	299	174
Lune	1474	1.6	2161	1.8	1513	1.9	1601	1.92	1701	184
Ribble	566	2	708	1.6	276	1.4	455	1.91	534	224
Hodder	244	2	244	1.9	155	1.5	231	1.91	418	213
Wyre	58	1.25	32	1.8	37	1.3	34	1.95	24	125
Others *	104	1.4	22	1.8	106	1.1	24	1.64	22	157
TOTALS & AV.WTS	**4624**	**1.7**	**6259**	**1.5**	**5968**	**1.6**	**5769**	**1.64**	**5251**	**178**

* Includes : Annas, Bela, Keer

1.1.2 SEA TROUT ROD CATCHES 1977-97 NUMBERS

	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	Ave
BORDER ESK	447	852	707	845	980	735	398	632	619	639	682	903	230	133	467	544	461	826	1327	1357	1135	710
EDEN	181	624	586	838	831	961	757	1216	698	478	770	1327	677	370	666	447	575	497	894	629	348	684.2
DERWENT	201	122	263	320	606	383	391	350	279	210	218	136	155	87	264	49	318	465	403	399	299	281.8
COCKER	17	2	7	13	11	11	6	2	4	8	8	6	2	2	3	1	3	2	10	1	1	5.71
ELLEN		24	9	37	7	41	7	4	1	4	22	10	11	2	30	44	10	8	10	19	3	15.1
EHEN	68	137	150	109	140	151	108	231	196	244	230	125	104	58	81	90	112	345	313	215	117	158.2
CALDER	7	7	11	32	5	37	33			12		3	6		13	7	2	8	12	7	27	13.4
IRT	48	74	29	95	95	39	24	40	45	41	100	106	63	37	60	30	33	68	320	149	94	75.7
ESK	411	155	47	115	85	27	27	19	80	45	129	93	21	39	33	199	59	13	37	68	102	85.9
DUDDON	17	49	26	75	43	31	13	13	20	15	17	25	17	15	43	31	77	50	29	42	33	32.4
LEVEN	149	87	70	406	353	166	141	74	79	137	124	148	36	73	85	71	37	144	72	49	68	122.3
CRAKE		37	62	111	67	71	58	65	25	35	50	86	73	28	38	29	40	33	121	39	26	54.7
KENT	279	271	441	386	228	244	124	67	148	186	413	361	244	236	449	305	451	633	333	450	299	311.8
LUNE	1383	1384	1490	2388	1310	981	1080	1220	1069	1115	1538	1855	1083	696	1618	1039	1474	2161	1513	1601	1701	1414.2
RIBBLE*	382	334	494	862	571	513	526	433	602	574	699	848	380	391	631	461	810	952	431	686	952	596.7
WYRE	2	22	51	18	58	59	6	14	24		55	71	4	13	48	20	58	32	37	34	24	32.5
OTHERS / UNKNOWN **	27	65	57	50	114	107	113	66	104	31	157	71	33	10	6	14	104	22	106	24	22	62.0
TOTAL REGION	**3619**	**4246**	**4500**	**6700**	**5504**	**4557**	**3812**	**4446**	**3993**	**3774**	**5212**	**6174**	**3139**	**2190**	**4535**	**3381**	**4624**	**6259**	**5968**	**5769**	**5251**	**4650.1**

*** Includes Hodder**

** Includes : Annas, Bela, Keer

1.1.2 SEA TROUT ROD CATCHES 1977-97 AVERAGE WEIGHTS IN lb

	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	Ave
BORDER ESK	1.41	1.61	1.46	1.77	1.54	1.61	1.73	1.87	1.69	1.74	1.59	1.7	1.82	1.91	2	1.8	1.5	1.5	1.4	1.3	1.5	2
EDEN	1.44	1.68	1.75	1.9	2.02	2.01	1.98	1.74	2.2	1.93	1.88	2.07	2.13	2.13	2.15	2.4	1.5	2	1.6	1.71	1.89	1.91
DERWENT	1.79	1.61	1.53	1.91	2.09	1.73	1.4	1.78	2.18	2.82	2.43	2.44	2.2	2.19	2.08	2.1	1.3	1.6	1.5	1.55	1.67	1.9
COCKER	3.07	2.25	3.03	2.17	2.66	1.98	1.71	2.25	2.56	9.75	1.69	2.45	0.99	1.75	1.25	1.3	2	1	2.4	0.81	4.6	2.46
ELLEN		1.13	1.78	1.8	2.25	1.15	1.79	1.25	2	0.94	2.32	2.8	2.16	3.25	1.66	1.9	0.9	1.1	1.4	1.05	0.77	1.67
EHEN	2.23	1.4	1.37	1.49	1.44	1.8	1.65	1.94	1.67	2.05	1.59	2.8	2.11	2.12	2.13	2.3	1.3	1.4	1.3	1.27	1.69	1.76
CALDER	2.86	2.07	1.23	1.85	3.2	1.98	2.72			1		1.75	2.29		1.52	2.2	4.4	2.5	2.1	2.83	1.53	2.23
IRT	2.5	2.28	1.52	2.34	2.3	2.06	2.57	1.78	2.98	2.99	2.08	2.08	2.44	1.81	2.47	1.5	1.6	2.3	1.4	1.28	1.59	2.08
ESK	1.61	1.61	1.57	1.72	1.8	1.58	2.5	2.09	1.76	1.51	1.93	2.31	3.17	2.44	4.31	2.2	1.3	1.7	2.2	1.72	1.35	2.01
DUDDON	1.9	1.04	1.76	1.81	1.45	1.47	2.38	2.83	2.2	1.57	1.37	2.23	1.47	2.25	1.38	1.4	1.8	1.4	1.2	1.16	1.25	1.68
LEVEN	1.49	1.39	1.27	1.62	2.07	2.26	1.79	1.87	2.38	1.72	1.63	1.87	1.67	2.09	1.76	1.9	1.8	2	1.7	1.63	1.08	1.76
CRAKE		1.22	1.44	1.46	1.43	1.45	1.32	1.64	2.79	1.23	1.42	1.81	1.89	1.67	1.74	1.3	1.4	1.7	1.2	1.41	1.33	1.54
KENT	1.83	1.73	1.55	2.01	2.05	1.79	1.99	1.98	2.22	1.65	2.09	2.16	1.92	1.74	1.88	2.1	1.6	1.6	1.4	1.59	1.74	1.83
LUNE	1.85	1.75	1.49	1.97	2.14	2.17	1.84	1.94	6.3	1.88	2.25	2.14	2.11	2.29	2.23	2.2	1.6	1.8	1.9	1.92	1.84	2.17
RIBBLE*	1.92	1.91	1.63	2.15	2.36	2.02	2.06	2.02	2.13	2	1.93	2.23	2.19	2.21	2.01	2.55	2	1.8	1.4	1.91	2.19	2.02
WYRE	2	1.41	1.32	1.86	1.52	2.06	1.38	1.48	1.58		1.29	2.59	2.87	1.32	1.47	2.1	4.4	1.8	1.3	1.95	1.25	1.84
OTHERS	1.66	1.3	1.17	1.85	1.12	1.6	1.24	2	2.19	2.02	1.38	1.56	2.43	2.25	1.54	1.2	1.4	1.8	1.1	1.64	1.57	1.62

* Includes Hodder

* Includes : Annas, Bela, Keer

1.2 Commercial Catches by Nets and Fixed Engines

1.2.1 Commercial Salmon Catches by River/District and Month - 1998

River/District (Type of Net)	Feb	Mar	April	May	June	July	Aug	Sept	Total	Average Weight (lb)	Effort No. of Tides
Eden & Border Esk (Haaf nets)		0	2	24	41	299	234	50	650	7.83	3386
Eden Fixed Engine				4	5	4	3		16	13.25	12
Coastal Drift						11	28		39	7.94	12
South&WestCumbria Nets&Fixed Engines*											
Duddon (Draw Nets)*											
Leven (Lave Nets)			0	0	1	10	7		18	6.5	310
Kent (Lave Nets)				0	0	8	12		20	6.1	147
Lune (Draw Nets)					1		2		3	7.83	6
Lune (Drift Nets)				1	6	229	289		525	6.95	430
Lune (Heave Nets)			0	0	29	165	195		389	7.15	1046
Ribble (Drift Nets)			0	1	5	44	68		118	8.03	154
Total Catch - Nets and fixed engines		**0**	**2**	**30**	**88**	**770**	**838**	**50**	**1778**	**7.45**	**5503**

* None issued 1998

1.2.1 Commercial Salmon Catches - Historical Data

	1993		1994		1995		1996		1997	
	No.	Av.Wt (lb)	No.	Av.Wt (lb)	No.	Av.Wt (lb)	No.	Av.Wt (lb)	No.	Av.Wt (lb)
Eden and Border Esk	1893	8	2221	8.19	3008	7.26	2158	8.27	1449	7.73
Coastal Drift	250	8.01	461	8.2	728	7.2	715	8.3	366	7.64
South & West Cumbria nets and fixed engines	-	-	27	6.91	*		*		*	
Duddon	25	9.46	-	-	*		*		*	
Leven	14	8.14	36	6.36	39	8.19	33	7.05	42	5.62
Kent	104	6.84	82	6.46	109	6.15	45	7.32	99	6.06
Lune Draw Nets	-	-	17	7.38	31	7.63	36	6.5	25	7.64
Lune Drift Nets	2038	7.34	1924	8.02	859	7.38	783	8.1	676	6.76
Lune Heave Nets	931	7.24	1028	8.53	632	8.05	522	8.19	435	6.62
Ribble	205	9.63	347	9.92	160	9.7	172	10.73	69	8.88
TOTALS & AV.WTS	**5460**	**8.08**	**6143**	**8.25**	**5566**	**7.42**	**4464**	**8.3**	**3161**	**7.3**

* no licences issued 1995 / 1996 / 7

1.2.1 WEIGHT FREQUENCY DISTRIBUTION MAJOR SALMON / SEATROUT NET FISHERIES 1998

SALMON	SEATROUT											
WEIGHT	KENT LAVE	CUMBERLAND DRIFT	LUNE DRIFT	LUNE HAAF	RIBBLE DRIFT	SOLWAY HAAF	LEVEN LAVE	LUNE DRAW	LUNE DRIFT	LUNE HAAF	RIBBLE DRIFT	SOLWAY HAAF
RANGE lb												
1-1.9							0	1	0	9	0	144
2-2.9	0	0	0	0	0	12	4	1	0	150	0	328
3-3.9	2	0	1	6	2	28	0	2	3	99	1	141
4-4.9	4	1	52	52	6	89	1	0	26	51	2	35
5-5.9	7	17	143	92	19	156	1	0	25	19	1	19
6-6.9	3	10	183	78	26	119	1	1	19	13	1	4
7-7.9	2	1	70	78	31	40	0	0	11	4	0	1
8-8.9	1	0	18	25	6	21	0	1	9	4	0	1
9-9.9	0	0	14	19	5	21	0	0	1	1	2	3
10-10.9	0	0	7	8	6	18	0	0	3	0	9	1
11-11.9	0	3	7	6	3	29						
12-12.9	0	0	7	3	3	18						
13-13.9	0	1	3	7	3	26						
14-14.9	0	2	4	1	0	33						
15-15.9	1	4	5	4	3	16						
16-16.9	0	0	2	6	3	11						
17-17.9	0	0	3	0	1	7						
18-18.9	0	0	0	2	0	2						
19-19.9	0	0	1	2	1	3						
>20	0	0	5	0	0	1						

1.2.1 COMMERCIAL SALMON CATCHES 1977-97

	EDEN & BORDER ESK		LUNE DRIFT		LUNE HEAVE		RIBBLE DRIFT		COASTAL DRIFT		KENT LAVE	
YEAR	TOTAL NO.	AV WT(LB)	TOTAL NO.	AV WT(LB)	TOTAL NO.	AV WT(LB)	TOTAL NO.	AV WT(LB)	TOTAL NO.	AV WT(LB)	TOTAL NO.	AV WT(LB)
77	1479	7.95	1739	7.48	729	8.59	514	10.8	467	7.63	236	7.4
78	2015	8.24	2550	7.3	1331	8.7	319	10.04	464	8.24	374	7.76
79	1024	8.26	1074	8.83	503	9.6	649	11.35	275	8.26	97	7.66
80	1010	8.95	1029	8.61	414	8.85	725	12.1	198	8.95	61	7.89
81	1337	9.11	1889	10.68	331	9.83	810	12.22	457	9.11	55	8.2
82	1773	7.39	624	6.94	341	7.2	252	10.29	748	7.16	39	6.1
83	5058	7.3	1152	7.75	503	7.53	432	9.31	1167	7.2	31	6.3
84	4261	7.02	1306	6.79	870	6.25	507	11.25	735	8.24	131	6.65
85	585	8.6	912	7.48	204	8.59	395	12.19	417	7.29	20	10.25
86	2971	9.54	1497	7.59	758	8.7	434	11.09	868	7.6	61	7.16
87	1999	8.81	1703	7.05	344	7.73	508	10.36	416	7.95	26	8.04
88	880	8.19	2402	7.17	580	8.87	829	10.62	760	6.85	102	7.3
89	1950	7.52	2284	7.43	1158	7.42	493	10.89	816	6.81	357	7.1
90	1880	9.03	1405	7.72	1180	8.59	239	11.18	479	8.72	197	9.51
91	1681	8.26	1472	7.92	567	8.12	206	10.24	195	8.13	185	8.26
92	959	8.38	868	7.67	604	8.41	102	10.5	454	7.81	68	7.38
93	1893	8	2038	7.34	931	7.24	205	9.63	250	8.01	104	6.84
94	2221	8.19	1924	8.02	1028	8.53	347	9.92	461	8.2	82	6.4
95	3008	7.26	859	7.38	632	8.05	160	9.7	728	7.2	109	6.15
96	2158	8.27	783	8.10	522	8.19	172	10.73	715	8.30	45	7.32
97	1449	7.73	676	6.76	435	6.62	69	8.88	366	7.64	99	6.06
AVERAGE	**1981**	**8.19**	**1437**	**7.71**	**665**	**8.17**	**398**	**10.63**	**545**	**7.87**	**118**	**7.42**

1.2.2 Commercial Catches of Migratory Trout by Nets and Fixed Engines 1998

River/District (Type of Net)	Feb	Mar	April	May	June	July	Aug	Sept	Total	Average Weight (lb)	Effort No. of Tides
Eden & Border Esk		6	3	214	366	83	4	1	677	2.77	3386
Eden Fixed Engine				0	0	0	0		0		12
Coastal Drift						0	0		0		12
South&WestCumbria Nets&Fixed Engines*											
Duddon (Draw Nets)*											
Leven (Lave Nets)			0	0	4	2	1		7	3.79	310
Kent (Lave Nets)				0	1	0	0		1	7.5	147
Lune (Draw Nets)					6		0		6	4.33	6
Lune (Drift Nets)				12	75	9	1		97	6.06	430
Lune (Heave Nets)			1	24	231	79	15		350	3.51	1046
Ribble (Drift Nets)			0	0	11	5	0		16	10.28	154
Total catch, nets and fixed engines		**6**	**4**	**250**	**694**	**178**	**21**	**1**	**1154**	**3.39**	**5503**

* None issued 1998

1.2.2 Commercial Catches of Migratory Trout - Historical Data

		1993		1994		1995		1996		1997
	No.	Av.Wt (lb)	No.	Av.Wt (lb)	No.	Av.Wt (lb)	No.	Av.Wt (lb)	No.	Av.Wt (lb)
Eden and Border Esk	1445	2.62	1946	2.63	2176	2.9	966	2.81	651	2.84
Coastal Drift	-	-	-	-	2	5	6	7.33	4	5.5
South & West Cumbria nets and fixed engines	-	-	-	-	*		*			
Duddon	26	2.96	-	-	*		*			
Leven	6	4.33	7	3.79	7	4.21	25	4.7	18	4.44
Kent	-	-	1	7.5	1	2.5	0	0	1	4.5
Lune Draw Nets	-	-	-	-	2	5	14	2.79	11	3.5
Lune Drift Nets	244	5.71	147	4.96	50	4.84	130	5.61	120	5.79
Lune Heave Nets	594	3.27	1172	3.12	1170	3.45	665	4.01	327	3.69
Ribble	22	6.89	70	5.87	22	6.5	22	5.14	20	6.35
TOTALS & AV.WTS	**2337**	**4.3**	**3343**	**2.97**	**3430**	**3.15**	**1828**	**3.52**	**1152**	**3.49**

* no licences issued 1995 / 1996 /1997

1.2.2 COMMERCIAL SEATROUT CATCHES 1977-97

	EDEN & BORDER ESK		LUNE DRIFT		LUNE HEAVE		RIBBLE DRIFT		COASTAL DRIFT		KENT LAVE	
YEAR	TOTAL NO.	AV WT(LB)	TOTAL NO.	AV WT(LB)	TOTAL NO.	AV WT(LB)	TOTAL NO.	AV WT(LB)	TOTAL NO.	AV WT(LB)	TOTAL NO.	AV WT(LB)
77			220	4.79	618	3.27	2	7.25			70	4.76
78	4238	2.18	152	4.86	710	3.37	7	6.79	6	4.83	91	4.36
79	2141	2.49	77	4.64	575	3.45	9	5.5	5	4.8	20	2.9
80	5674	2.16	303	4.37	1935	2.93	22	5.29	11	5	22	3.18
81	3955	2.22	362	5	561	3.41	18	5.72	17	4.68	12	4.75
82	6688	2.42	428	4.77	400	3.59	26	4.52	35	4.91	46	4.09
83	6646	2.37	335	5.24	475	3.3	55	5.85	9	4.89	11	3.55
84	8291	2.34	289	4.5	1865	2.89	54	7.47	31	5	43	3.07
85	5062	2.42	508	4.1	738	3.4	44	7.98	5	5	5	4.4
86	4707	2.4	192	5.17	557	3.18	23	7.51	34	5.62	13	4.77
87	5109	2.42	172	4.74	605	3.14	18	8.64	12	4.88	5	5.2
88	4949	2.16	164	4.77	1742	2.86	17	8.2	7	4.35	27	4.4
89	3847	3.08	187	4.78	1172	3.23	22	4.84	8	4.43	80	4.33
90	2193	2.73	210	5.52	778	3.7	26	7.32	2	4.13	10	5.3
91	1923	2.74	296	5.24	464	3.39	24	5.94	1	5.5	18	5.68
92	1732	2.72	308	5.37	1064	3.55	24	7.4	0	0	6	3.67
93	1445	2.62	244	5.71	594	3.27	22	6.89	0	0		
94	1946	2.63	147	4.96	1172	3.12	70	5.87	0	0	1	7.5
95	2176	2.9	50	4.84	1170	3.45	22	6.5	2	5	1	2.5
96	966	2.81	130	5.61	665	4.01	22	5.14	6	7.33	0	0
97	651	2.84	120	5.79	327	3.69	20	6.35	4	5.5	1	4.5
AVERAGE	**3717**	**2.53**	**233**	**4.99**	**866**	**3.34**	**26**	**6.52**	**10**	**4.29**	**24**	**4.15**

2 FISH CULTURE AND HATCHERY OPERATIONS

2.1 Brood fish collection

	SALMON		SEATROUT	
	Male	Female	Male	Female
Northern Area				
Border Esk system				
Eden System	4	4		
West Cumbria	4	2		
South West Cumbria				
South Cumbria Rivers				
Central Area				
Broadraine Trap	32	34		
Leck Beck	0	0		
R. Hyndburn	0	0		
Ribble	0	0		
Hodder	3	1		

2.2 Hatchery Operations and Salmon and Sea Trout Stocking

2.2.1 Warwick Bridge Hatchery

2.2.1.1 Numbers of ova laid down

Species	No. of Ova	Source
salmon	55780	Lowther

2.2.1.2 Salmon and seatrout planting

River	Ova	Fed Fry Salmon	Fed Fry Sea Trout	0+ parr Salmon	1+ parr Salmon	Salmon smolts
Cocker		48800				
Caldew		4100				
Lowther		25000				
Derwent		27,800*				10700
Ellen						

* Reared at Borrowdale Fish Farm

2.2.2 Central Area salmon and seatrout stocking

As mentioned previously, the Agency has been supporting the Lune and Wyre Hatchery Group to rear salmon pre-smolts for the Lune and Wyre catchments. The Agency has allowed the Hatchery Group to make use of Broaderaine fish trap to collect broodstcok and has provided advice to the group on their fish rearing operastion.

2.2.2.1 Numbers of ova laid down

Species	No. of Ova	Source
Salmon	67000	Lune

2.2.2.2 Salmon and seatrout planting

River	0+ Salmon fry	eyed salmon ova	Autumn parr
Borrow Beck	8000		
Birk Beck	4000		
Barbon Beck	7000		
R Lune below Newbiggin	7000		

R Lune below Yorkshire Bridge	7000		
R Hindburn below Wray	3000		
Rampsholme Beck		7600	
Tebay Gill Beck		7600	
R Wyre between Abbeystead & Gubberford Bridge			5200

3 RESTOCKING WITH TROUT AND FRESHWATER FISH

3.1 Non-Migratory Trout

3.1.1 Stocking by Angling Associations and Fish Farms not excluded under Section 34 of the Salmon Act 1986.

Area	No. of Section 30 Consents Issued	Total No. Brown Trout	Total No. Rainbow Trout
Northern Area	157	30	100
Central Area	193	36488	80225
Southern Area	79	8172	25816

3.1.2 Non-migratory trout stocking carried out by Agency

3.1.2.1 Northern Area

Date	Stocking Location	Brown Trout Fry

3.1.2.2 Central Area - fish to be restocked in 1998

Date of pollution incident	Stocking Location	Species	Size (cm)	Number
15.8.96	Pendle Water Victoria Park	B/Trout	<15	3
			15.25	47
			25.4	10
8.4.98	R Lostock Earnshaw Bridge to Dunkirk Road	roach	<25	20
		chub	<25	40
10.4.97	R Calder u/s Townley Park to Brun confluence	B/Trout	<15	3
			15.25	14
			25.4	3
5.4.97	Pendle Water Barley Bridge to 1 mile u/s	B/Trout	<15	15
			15.25	30
			25.4	4
12.7.97	Hyndburn Brook behind Dunkenhalgh Hotel	B/Trout	Fry	132
			15.25	116
			>40	14
8.7.97	R Brock Bleasdale	B/Trout	Fry	45
			<15	100
			15.25	27

3.1.2.3 Southern Area

		Brown	Trout
Date	Stocking Location	Number	(Size inches)

3.1.3 Coarse Fish Planting by Agency exLeyland Hatcheries and Fish Farm

3.1.3.1 North

Species	No.	Location	Size(cm)

3.1.3.2 Central

Species	No.	Location	Size(cm)
chub	17000	R Douglas	11-13
chub	5000	R Yarrow	11-13
chub	3000	R Tawd	11-13
chub	1000	Slate Brook	11-13
chub	3000	R Alt at Downholland Brk	11-13
chub	3000	R Darwen	11-13
chub	11000	R Calder	11-13
chub	1000	Stock Beck	11-13
chub	7000	R Ribble	11-13
dace	15000	R Douglas	11-13
dace	5000	R Yarrow	11-13
dace	1000	Slate Brook	11-13
dace	3000	R Alt at Downholland Brk	11-13
dace	5000	R Calder	11-13
dace	5000	R Ribble	11-13
dace	1250	R Lune	11-13
dace	500	Barton Brook	11-13
roach	5000	R Yarrow	11-13
roach	3000	R Tawd	11-13
roach	2200	R Alt at Downholland Brk	11-13
roach	3000	R Darwen	11-13
roach	2500	R Lune	11-13
roach	500	Barton Brook	11-13
roach	1000	R Wyre	11-13

3.1.3.3 South

Species	No.	Location	Size(cm)
mixed coarse	5000	Heesoms Pool	
mixed coarse	4000	Marley Tiles Pool	
mixed coarse	4000	Greenswood Pool	
mixed coarse	12000	Wynbury Sandhole	
bream and tench	200	Hardy's Pool	
mixed coarse	4000	Malkins Bank Pool	
mixed coarse	6000	Giro Pool, Burscough	
mixed coarse	2000	Valley Farm	
roach	150	Shepherds Pool	
bream	500	Goodwins Pool	
bream	500	Borrows Pit, Alsager	
bream	500	Millbrook Lodge	
bream	500	Bradley Hall Pool	
roach, bream, perch	500	Smoker brook (Weaver)	
mixed coarse	1000	Falcon Lodge, Tarvin	

3.2 Freshwater Fish

3.2.1 Stocking by Angling Associations etc. Numbers stocked of each species

No. of Section 30 Consents Issued	Northern Area 24	Central Area 76	Southern Area 163
Mixed Coarse	5782	3068	
Roach		28690	28900
Rudd		12490	10700
Bream		8243	33364
Chub		450	7000
Carp		14611	17912
Crucian Carp		850	3155
Grass Carp			
Koi Carp		10000	
Gold Carp			
Silver Carp			
Mirror Carp		1606	5000
Eels			
Tench		4736	6585
Barbel		10110	3250
Perch		7900	4850
Golden Orfe			1300
Silver Orfe			
Pike		180	
Other			
Gudgeon		2150	
Wels			16
Char			
Grayling		90	
Skimmer Bream			
Dace			
Roch/Rudd Hybrid			
Broodstock			
Ghost Carp			
Golden rudd		1050	

3.2.2 Total number of fish transfers carried out by Agency on behalf of Angling Clubs

	Northern Area	Central Area	Southern Area
No. of Transfers	2	24	39
Roach	125	385	13350
Rudd	125	2300	339
Bream		268	12746
Chub			
Dace			
Carp	65	32	5751
Crucian Carp		1	35
Mirror Carp			
Trout			
Tench		4	
Gudgeon		1500	
Perch		203	2000
Pike	2	2	29
Mixed Coarse	2	8400	84000
Grass Carp			
Barbel			
Rainbow Trout			
Golden Orfe			20
Other		1	6003
Eels		2	

3.2.3 Total number of fish rescues carried out by Agency on behalf of Angling Clubs

	Northern Area	Central Area	Southern Area
Area Rescues	1	23	38
Roach		178	2500
Rudd			
Bream		1	39
Chub		12	689
Dace			625
Carp			132
Mirror Carp			
Crucian Carp		20	122
Grass Carp			
Trout		183	1406
Tench			112
Gudgeon			
Perch			2131
Pike			6
Mixed Coarse		14344	39900
Salmonid	80	6	
Eels		10	500
Other		16	
Brook lamprey			62

3.2.4 Fish Grants from Agency Stocks

Area	Assoc.	Receiving Water	Source	Species	No	Size

3.2.5 Fisheries Surveys in connection with Assessment, Improvement and development of Fisheries

Area	Electric Fishing	Netting	Biological	Water Analysis	Advisory Visit	Echo Sounding	Angling
Northern Area (North Cumbria)	62	0	15		6		1
Northern Area (South Cumbria)	52				3		
Central Area	13*	30	5	17	162	1	0
Southern Area	77	45		24	91	5	

*This is the number of surveys eg 1 Ribble survey = 147 sites

3.2.6 Surveys carried out for Angling Clubs

3.2.6.1 North Area

Water Sampled Reason
nil

3.2.6.2 Central Area

Water Sampled	**Reason / Survey Results**
Leeds & Liverpool Canal	Survey site visit: Lydiate to Aintree
Hags (ASDA) Accrington	Netting survey. Large carp and bream. Very few small fish
Lark Hill	Good catch of carp tench pike roach bream. Fish moved to Croxteth Park as the pond will soon be drained.
Walton Park	Generally disappointing except for the catch of roach.
Calderstones	Good mixed stocks, pike, roach, bream, perch, tench
Greenbank	Massive stock of roach 20,000 + 3-6" fish and some carp. some tench
Jacobs, Haslam Park	Big stock, roach perch, bream, gudgeon, tench
Platts Lane, Burscough	Big stock roach bream tench carp rudd eels
Elswick Pond BT Angling Club	Netted three ponds, 2 high water levels, 1 pond very poor
Serendepity fishery	collect perch for health check
Corn Beck	Limestone spawning riffle
Freckleton	Netting survey
Lancaster Moor Hospital	Fish transfer to new pond
Green Bank	Survey lake fish stocks
College Pond Fylde	Pike removal assessment
Haslam Park/Street	Fish rescue
Jacobs Lodge Liverpool	survey fish stocks
Platts Lane, Burscough	survey fish stocks
Wyreside	Water samples taken
Newrad, Darwen	Discuss white spot problem. Samples to be collected
Ducky Pond Knowsley	Progress UFDP Netting survey
Ibstock Brickworks, Skelmersdale	Depth check site visit

Ducky Pond	Submit water samples
Lower House Fishery	Process gudgeon for health checks
Ulnes Walton pond	Net & rescue 2000+ roach & rudd, transfer & collect 200+ for EA
Wallsutches Lodge	Advice on fish kill & water sample submitted
Haslam Park	Remove fish for safe keeping
Chorley & River Lostock	Net, sort & stock fish to R Lostock
Shruggs Wood	Water sample submitted
Walton Hall Park	Fish sample for health check
River Wyre	Limestone addition, Cobb Beck
Lower House Fishery	Take water sample
Orrell Water Park	Water sample taken
North Moss Pit Cliviger fishing pond	Water sample taken and fishery advice given
River Cocker	Assessing habitat improvement & water quality
Cam Beck	Limestone spawning gravel addition
Widdows Pool (Wigan)	Water sample taken
Shruggs Wood (Leyland)	Water sample taken
Cam Beck	pH survey
ShruggsWood Leyland	Monitor Algal Bloom
Lee Green Reservoir	Fisheries & WQ sample
Swindon Reservoir, Burnley	Sample taken, fishery advice given

3.2.6.3 South Area

Water Body Sampled	**Reason**
Rumworth Reservoir Bolton	Assess stocking levels and species diversity
Roofers Pool Radcliffe	Assess stocking levels and species diversity
Moston Flash (NGR 718619)	Health check for Elworth AC
Broughton Hall (NGR 413973)	Health check for Broughton Hall AC
Wingate Reservoir (NGR 82946)	Assess stocking levels and species diversity
The Spinney Buglawton	Health check
Newton Heath Lodge	Assess stocking levels and species diversity
Bone Mill Dam Hyde (NGR 958951)	Assess stocking levels and species diversity
Wingate Reservoir	Health check
Altrincham Pool	Assess stocking levels and species diversity for Altrincham AC
Holly Lodge Girls School	Assess stocking levels and species diversity
Dove Holes	Health check for Bollington Royal Oak AC
Bradley Hall Lake Haslington (NGR 725565)	Assess stocking levels and species diversity for A.C.C.O.
Loughclough Pool	Assess stocking levels and species diversity
Sandimoor Pool Runcorn	Health check following mortality for Weston AC
Allotment Pool Bolton (NGR 704807)	Health check
Yew Tree Lodge Haydock	Health check for roach and rudd
Northfield Lodge Bolton (NGR 707103)	Health check for carp SVC
Meadow View Pools Statham	Health check
Heesoms Pool Stretton	Hydroacoustic survey for Frodsham and Barnton AC
Ogden Reservoir	Hydroacoustic survey
Padgate Dam St Helens	Health check
Newton Canal Newton le Willows	Health check
Newton Canal (NGR 574443)	Health check for Section 30
Brunclough Reservoir (NGR 017094)	Assess stocking levels and species diversity
Bryn Hall Ashton in Makerfield	Assess stocking levels and growth rates of fish showing signs of ill health
R Weaver	Echosounding
Ocean Pool Winsford	Health check for Winsford and District AC

Mere Sands Nature Reserve Southport	Health check on roach for Warrington AC
Brookside Fishery Stretton	Assess stocking levels and species diversity
Old R Irlam	Assess growth rates / ages of fish for Boathouse AC
Mellors Pool Windy Arbour	Assess fish health status following poor catches and mortalities for Whiston AC
Birch & Bigmoor Pool Sandbach	Health check sample for Elworth AC
Hach Green Pool	Health check
Bolton Canal	Assess stocking levels and species diversity and age classes
Smallshore Pond Rochdale	Assess stocking levels and species diversity for Rochdale Catholic AC
Peover Hall Knutsford	Health check
Shoreclough Farm Pool Macclesfield	Assess stocking levels and species diversity
Twin Oaks	Assess stocking levels and species diversity for Weston ICI
Denshaw Vale (NGR 974103)	Health check

3.2.6.4 Other visits / works

Central Area

VISIT	REASON
Hackensall Farm, Knott End	Fish stocking advice.
River Condor	Assessing need for fencing
Hall Beck	Hall Beck - R.Keer, cleared blockages
Marsden Farm, Bashall Eaves	Site meeting. Given advice regarding new proposed fishery
Haslam Park	Site meeting with Noel Murphy (Preston BC)
River Condor	Fencing Scheme
Mansergh Beck	Reported blockage to Lune & Wyre FA
Weasdale Beck	Arranged removal of blockage
Ackhurst Lane, Orrell	Gave fisheries advice on existing and future ponds
Clitheroe	Net Loan scheme to Angling Club
Rowley Lake	Meet Parks Department (Burnley BC)
White Mans Dam	Consolidate Plans to take to Estate Managers
R Condor	Progress fencing project
R Wyre Cam Beck	Discuss limestone spawning riffle
Tebay	Tree planting scheme
Greenhalgh	Advice on fishery
Barton Brook	Tree planting scheme
Knowsley Park	To promote fishery plan with lake owners
Landgate Lodges	Determined reason for netting, sorted date, delivery of net and paperwork
Croston	Sort out loan scheme net, paperwork and give advice on clubs water
Roughlee Fishery	Suggested loan scheme
Haslam Park	Advice given by Agency pollution control staff follow on activity by Preston BC
Scorton, R Wyre	Fencing Fuschusers Bridge
Bells Farm, Chaigley	Advice on erosion control
River Wyre û habitat restoration	Assessing flood damage fencing
Lostock Hall Labour Club	Advice on future stock management
Rigmaden, R Lune	Advised on habitat restoration
Lund Farm, R Greta	Advised on restoration
Whittington, R Lune	Advised on restoration
Borwick area, R Keer	Habitat work to be finished asap
River Wyre	Inspecting habitat damage
River Lune	Establishing weed beds
River Yarrow	Survey sites for habitat improvement

Liverpool	Habitat advice Walton Park
Westhoughton	Habitat improvement advice
River Keer	Check on fencing work
Upper Lune	Weed control
Habitat Work	Assessment, habitat work
Bootle	Make and show club how to make artificial spawning substrate
Bluestone Fishery	Fishery advice
Mill Brook, Hodder	Get blockage cleared for migrating fish
Eccleston Equestrian Centre	Fishery advice
Great Lodge, Hapton	Meet, listen to and respond
Rigmaden, Ingleton, Whittington	Survey sites for habitat Improvement projects
River Wyre	Habitat Assessment
Paythorne	Bank erosion advice
River Alt	Met with Ecology to agree habitat enhancements
Fenwick Arms, Claughton	Met to progress habitat work on River Lune
River Wyre	Habitat assessment
NWW Rivington STW	Gave advice on preventing future fish escapes from stocks
Leyland Pond Centurion Way	Advice on potential fish transfer And creation of new fishery
Worden Park	Site visit to Farington Park Lodge To discuss angling/habitat improvements
Ingleton Pipe Line	Identified non-spawning becks
Calderstones Park	Funding of projects
Darwen	White spot problem
Burnley (Queens Mill)	Draining and clearing
Calderstones Park	Parasite monitoring plan
British Waterways, Wigan	Joint improvement plans for canal
Fenwick Arms	Lune and Wyre Habitat Committee
Upper Lune	Weed control
Ducky Pond (Barnacre) Halewood	Follow up to survey
Burscough	Follow up to survey
Queens Partnership Offices	Larkhill
Scorton	Wyre Salmon Restoration Group
Tebay	Lune & Wyre AGM
Litherland	Agreement sought on canal habitat action plan
Fenwick Arms	Lune & Wyre Habitat Sub-Comm
Bootle	Mtg Liverpool & Dst Anglers Assoc
River Greta	Habitat Works agreed. Plan to be forwarded by Ingleton A C
River Lune	Habitat Works agreed. Plan to be sent in by Southport Fly
Farington ParkLodge	Designed project with BC
Lower House Reservoir Barrow Ford	Gudgeon traps delivered and Fishery advice given
Pond at Ingol, Preston	Made contact, discuss, and introduce Agency Ecology staff. Await date for visit with Ecology
Mere Brow	Discuss development proposals for site
Mere Brow	Discuss day ticket water development
R Douglas	Habitat improvements project Identification of sites
River Wyre	Obstruction removal
River Wyre	Habitat improvement
Calderstones, Liverpool	Urban Fisheries Development Work
Footholme Water Treatment	Fish easement project
Beacon Country Park	Urban Fisheries Development Meeting
Liverpool parks	U F D P work
Footholme/Brennand& Whitendale	Fish Easement Project
Liverpool parks	U F D P work
Ducky Pond, Halewood	Photographs of U F D P work

Worden Park, Leyland	U F D P Farington
Wigan Civic Hall	Heybrook Corridor Group
Field House Farm Waddington	To create 1 acre lake
R Wyre, habitat work	Fish easements, fencing
Oakenclough Lodge	Leaking, drain down
Tebay	Meeting to progress habitat improvement work on River Lune
Woods Farm, Appley Bridge	Sent info on still waters and designs for angling platforms
Chingle St John	Site visit re request from owner for advice
Widdows Pool	Management advice given
Burholme Farm (Hodder)	Provide trees for 600mtrs of banking to begin Oct/Nov
Foxhouse Lake	Fish mortality
Appley Bridge (R Douglas)	Possible habitat enhancement
Park Beck	Fish easement
Hoscar (R Douglas)	Sites survey
Smithies Brook	Habitat improvement
Lower Greystonely	Set up pond for disabled anglers
Honnington Clough - Wyre	Fish Easement
Burrow Beck	Advice regarding crossing
Arkholme Beck	Beck blocked by grass
Singleton R Wyre	Fish mortality
Blackpool	Disease in pond
Park Beck	Fish easement
R Wyre	Bank protection
Hambleton Fishery	Fish stocking & habitat advice
Hodder	Required info on Hodder becks for future NWW funding for habitat and restoration
Burholme Farm	Tree planting scheme for November, advice from Ecology
Abbeystead, Churchtown	Fish passes checked
Farm visit	Beck blocked by grass û farmer to clear
Newby	Pre-contract
Whitewell	Meeting with Ribble Conservation Trust
LCC offices	Forest of Bowland Technical Officers
Hyndburn BC	Develop Platts Lodge Urban Fisheries Development Project.
Upper Lune	Weed clearance by volunteers
Lodge Hall Farm	Habitat Restoration for future
Oaken Clough Mill Lodge	Report of dead fish
Lower House Fishery	Fisheries advise given
Rigmaden and Kellet	Visits to land owners- Habitat work
Shruggs Wood	Site meeting û Fishery advice
Farrington Park	Discuss Urban Fisheries DP
R Yarrow	To assess impact of proposed in river works
Widdows	Fisheries Advice
R Alt	Site meeting to discuss enhancement proposals
Burholme Farm	Tree Planting Projection Ongoing
Cliviger Fish Ponds	Pre meeting site survey
Hindburn Trust	Future habitat works
Rawtenstall	Court Case
Warders Moss Pond Burscough	Pre stocking advice
Low Birkwirth Farm	Habitat Restoration for future
Chorley	Fish Pass Design
Thisleton Pond	Disease Report
Whitray Beck	Future habitat works
Queen St. Mill	Fisheries advise & draft letter

Keer Holme	Visit re: Tree Planting
Cam Beck	Habitat Work. Spawning
R Wyre	Fencing, Tree Pollarding
Park Beck	Habitat Assessment
Whitewell	On-going
Widdows Flash-Wigan	WQ ok and fishery in good shape
Marshaw Wyre	Habitat improvements
Trough of Bowland	Advice given on fish passes to be created in 1999
River Alt catchment	Check flood defence heavy maintenance sites
Park Beck	Built fish easement on minor obstruction
River Crossens Catchment	Check flood defence heavy maintenance sites
Burholme Farm	Tree planting
G Done Tackle/Cans Res	Discussion on diseased fish/collection
River Keer at Borwick	Plans to be redrawn to comply with fishery management needs
Red Ponds, Wigan	Plans discussed/being drawn
Lutra	Liaison with netsmen
Hodder	Remove 30 trees
Cliviger Fishponds	Advice on manual weed removal
Freckleton	Diseased fish sample
Pump Pit, Freckleton	Fish taken for health check
Oakenclough Mill Pond	Fish taken for health check
Kelleth, R Lune	Visit site of proposed smolt pond
R Wyre	Habitat
Skelmersdale Pond	Fish taken for health check
Ribchester	Advice and information
Calderstones Park	Continued liaison with Liverpool City Council
Chequer Lane, Skelmersdale	Discuss feasibility study

South Area

Meeting / Advice Given

- Meeting with North West Water regarding the draining of Cowpe Lodge
- Advice visit to Little Mill (NGR 562 649) for Tarporley A.C. re: water quality
- Advice given to Prince Albert A.C. re: water supply pipe crossing the River Dean, d/s of Deanwater Hotel bridge (NGR 875 820).
- Meeting with Bardsley Builders at Palace Rd. Res. prior to drain down and fish rescue. Flood defence & pollution also attended.
- Dane River Fisheries (NGR 671 725) – Advice visit regarding falling water levels - private day ticket
- Weed control site meeting at Slaters Pool, Runcorn with Halton Borough Council Ranger
- Site visit to Glossop Brook (Phase 4) , re: new fish ledge and fish pass installation
- Bottom Flash site visit with all function representatives to view illegal barrier/structure placed in river by yacht club.
- IFM Seminar at RFH re: Club Bailiff Training. Two seminars took place, one in January and one in February.
- Site visit to Malkins Bank, Sandbach (Mr Matthew Jones) re: stocking policy for mixed coarse fishery.
- Site visit re: fisheries general advice on creation of new fishery, for David Wyness, Birchwood Farm, Two Mills, Ledsham, S. Wirral.
- Doe Hey Reservoir, Bolton. Advice given to Bolton Rivers on lethargic carp
- Netting demonstration and talk given to students at Reaseheath College, Nantwich
- Meeting with Roland Bardsley Builder at Palace Road, Ashton Under Lyne, prior to fish rescue.
- Interview given to Granada TV, on the Recovery of the River Irwell as a fishery. This was shown on television on Tuesday 10th Feb.
- Netting at Greenbank Pool, Liverpool (NGR 385 882) for Liverpool City Council. Approx. 30,000 small roach and perch, 13 carp and 20 tench found. Sample for health check

- Netting at Calderstones Park, Liverpool (NGR 408 875) for Liverpool City Council. Approx. 7,500 bream, roach and perch, plus odd pike and tench. Sample for health check
- Netting on Bridgewater Canal, Worsley to determine if ochreous discharge has any adverse impact on fish population, for T Bruce (WQ).(NGR 747 004 and 722 003
- Electricfishing Special Survey took place on Padgate Brook, to assess fish populations following rehabilitation works.
- Fisheries advice and water sample taken from Farm Pool (NGR 643 792) for Lymm AC
- Meeting with Sykes Lodge, Stockport to discuss suspected *Ergasilus* in angling club pool.
- Fisheries advice and water sample taken from Mirlwood Pool (NGR 435 825) for Liverpool City Council.
- Havannah Flash, St. Helens. Water sample taken.
- Greylag Pool, Ellenbrook. Water sample taken.
- Fisheries advice and water sample taken from Barthomley Pool (NGR 769 519) for angling syndicate.
- Meeting with Crewe Borough Council staff regarding the blue/green algae problem at Queens Park lake, Crewe. Meeting also attended by Ecology, F.D. and E.Q.
- Weed control advice at Woods Meadow Pool, Leftwich near Northwich for Davenham A.C. Problem weed is *Azolla* sp.
- Sykes Lodge, Stockport. 5 bream taken from match for health check at Brampton.
- Fishery advice - Border Fisheries, Crewe (NGR 740 498) Fisheries advice and water sample taken.
- Site visit to Black Brook, St. Helens to view proposed site for the introduction of a small riffle bed for habitat improvements.
- Talk given to Wildlife and Game students at Reaseheath College regarding the role of the Environment Agency and Fisheries function in general
- Electricfishing and habscore on 3 sites on Black Brook, Sankey, for riffle bed installation.
- Fisheries advice to Mr Ian Morris of Brook House Farm, Brook House Green. Creation of new canal fishery for coarse fish.
- Advice visit to Sykes Lodge on general fisheries management
- Weed control advice. Rochdale & District Anglers, Nursery Pool at Milnrow. Canadian pond weed the problem.
- Fisheries Advice to Cotebrook Trout Fishery. Water sample taken.
- Planning Application Visit to Moreton Brook at Moreton. Mr Ward the farmer wishes to create a canal fishery from the existing stream and so alleviate a siltation problem.
- Fisheries advice to pond in Denton for protection of eroding banks
- Weed control and fisheries management advice. Podmore Conservative Group at Halmer End, near Newcastle, Staffs. Problem weeds - canadian pond weed and blanket weed. The pond dame wall also has a leak.
- Visit to Sale Ees and Northenden weirs re: fish pass and/or recreational interests
- Site visit to Black Brook, Sankey with Agency geomorphologist to take measurements on flows, gradients etc. for riffle/pool installation
- Weed control advice given at Crompton Lodge in Bury for Bury Anglers.
- Weed control advice given at private syndicate pools in Clatterbridge on the Wirral.
- Fisheries management advice given at Birkenhead Park Lakes for the Association of Wirral Angling Club.
- Weed control advice given at private pool in Blackrod.
- Meeting with Liverpool Park Lakes Liaison Group to discuss repair works to Princess Park Lake.
- Meeting with Liverpool Park Lakes Liaison Group to discuss Lark Hill Project.
- Advice given regarding falling water levels at Moss Lane Pool, Knutsford.
- Weed control advice given on a private conservation pond at Nether Alderley.
- General fisheries management advice given to Meadow View Fishery at Statham.
- Weed control and fisheries management advice given at Drinkwater Park Lake, Prestwich for Bury Council.
- Water quality advice visit to Healy Dell Dam, Rochdale and Sykes Reservoir, Rochdale for Waltonians A.C.
- Water quality advice visit to Deer Park Mere in Cholmondley to determine the blue/green algal count.
- Site visit to Tricketts Pool for general fisheries management advice.
- Advice visit to discuss creation of a third of an acre conservation pond.
- Weed control advice visit at Holly House in Ollerton.
- Weed control advice visit at Bostock Hall Lake, Bostock near Middlewich for the local residents committee.

- Advice visit to Grimsditch Mill Pool in Stretton following a fish mortality.
- Advice visit to Lawton Hall Lake to discuss the potential of the lake for a split between a carp fishery and a coarse day ticket fishery.
- De-silting and re-generation advice at Shavington Hall Pools with the new owners.
- Fisheries Advice visit to Queens Park Lake, Crewe for Crewe Metropolitan Borough Council representative Mr Howard Price. Discussed de-silting, removal of carp, present flushing practice from Valley Brook and the eventual re-instatement of the lake to a mixed coarse fishery which contains a variety of aquatic plants.
- Advice visit to Middlewood Lake, Worsley. Dissolved Oxygen reading taken but water showed bad algal bloom.
- Fisheries advice visit for Pilkington AC at Rainford Reservoir.
- Weed Control Advice given at Gleave House Farm pool, Mobberley which is controlled by Bay Moulton A.C. Meeting with Wain Homes at Golborn Park to discuss imminent fish rescue.
- Weed Control Advice given at Eldon Street park Lake, Leigh. Problem with encroaching Burr Reed and Norfolk Reed for Leigh A.C.
- Weed Control Advice given at some ponds at Halton controlled by Cheshire Cheese A.C.
- Weed Control Advice given at Sunnyside Road Lodge, Droylsden for Sinderland A.C. for a problem with Canadian Pondweed.
- Fisheries advice visit regarding revetment at Pennington Flash
- Fisheries Advice given at Halstead Park Lake, Windy Arbor Road, Whiston for BICC Anglers. To discuss general water quality and the illegal use of herbicide which has destroyed lilies and Canadian Pondweed.
- Meeting with wardens on Pennington Flash prior to fish transfer
- Fisheries advice for Crumpsall Anglers (NGR 834 035). Water sample taken
- Weed control advice on 2 waters controlled by Sundial A.C, Droylsden re: Broadleaved pondweed.
- Sandfold Reservoir (N. Reddish) with Reddish Vale A.C, Stockport Council for renovation of reservoir
- Weed control advice at Little Mill Pool, Cotebrook for Tarporley A.C. Problem weeds: Elodea spp. & Ceratophyllum spp.
- Fisheries advice at Rushton/Barleighford, Wincle, for Mr & Mrs Platt of Barleighford Hall (private syndicate), to improve the wild brown trout habitat on R. Dane.
- Fish stocking & planting advice on private pool at Fernside House, Frogg Lane, Pickmere, for new ½ acre coarse fishery.
- Meeting with contractors & Wigan Metro prior to draining Georges pool, Ashton
- Site visit to Town House Lodge, Rochdale to view proposed site for urban fisheries development project.
- Site visit to Holme Farm, Norley to view site for potential purchase and development of a fishery.
- Meeting with Bolton MBC regarding fish rescue at Reebok stadium
- Stillwater survey at Tatton Park (NGR 733 817).
- Stillwater survey at Oakmere Hall for Stillwaters Group (NGR 680 575)
- Site meeting on Wain Homes site with contractors prior to desilting pool at Golborn Road, Ashton
- Peover Hall Estate to meet Helen Bryan and discuss the future management performance required for the 40 pool complex on the estate.
- Sutton and Frodsham weir (R. Weaver). Site visit to assess site for a possible fish pass and eel trap to be incorporated into works being carried out by British Waterways.
- Visit to Weston Canal at Runcorn to devise a sampling strategy to gain information to be presented to ICI engineers in an on-going liaison process.
- Site visit to Longbarn Pool, Warrington with rangers and F Duke. General fisheries advice on removal of fish and creation of nature area at one end of pool.
- Site visit to Waterfoot with J Bushnell for general fisheries advice.
- General fisheries advice - Site visit to Wardley Hall with Salford Disabled AC
- Netting special survey at Hatchmere (NGR 554 724) with Cheshire Wildlife Trust
- Silt depth survey on South Park for Macclesfield Council
- Twin Oaks survey for Weston ICI (NGR 645 794)
- Echosounding survey on Manchester Ship Canal with APEM.
- Meeting at Powfall Reservoir at Garswood to discuss future stocking policy with J Hindley

4. FISH MOVEMENT RECORDED AT AUTHORITY FISH COUNTERS

4.1 River Lune

	FORGE WEIR				BROADRAINE WEIR			
Month	<35.0 cm	35.1- 50.0 cm	50.1- 65.0 cm	>65.0 cm	<35.0 cm	35.1- 50.0 cm	50.1- 65.0 cm	>65.0 cm
Jan	-	-	-	-	10	2	1	13
Feb	-	-	-	-	4	0	0	0
Mar	57	16	13	21	3	1	0	2
Apr	88	20	6	30	23	3	0	0
May	214	228	156	212	40	24	15	13
Jun	1108	859	402	401	132	56	26	31
Jul	-	-	-	-	244	109	42	28
Aug	398	352	236	874	202	60	47	63
Sep	-	-	-	-	365	202	156	309
Oct	302	356	377	1307	160	111	164	539
Nov	78	121	141	228	14	5	6	93
Dec	17	32	35	82	4	3	12	90
Total	2262	1984	1366	3155	1201	576	469	1181

4.2 River Kent - Basinghyll

Month	<35.0 cm	35.1- 50.0 cm	50.1- 65.0 cm	>65.0 cm
January	1	6	6	0
February*	0	3	3	3
March	0	10	2	2
April	8	25	14	2
May	8	84	75	8
June	43	932	234	37
July	223	1399	252	19
August	64	600	131	4
September**	50	62	25	5
October	1222	408	133	19
November	42	126	49	23
December	10	34	21	16
Total	571	3689	945	138

* - Lightning strike, no data 24.2.98 to 12.3.98

** - Fish counter error - data corrupt 1.9.98 to 14.9.98. Channel 4 removed for repair work 27.8.98. Therefore no counts for this channel for remainder of year. Therefore no weighting should be given to the total count as it is incomplete.

4.3 River Leven Backbarrow

Month	<35.0 cm	35.1- 50.0 cm	50.1- 65.0 cm	>65.0 cm
January*	7	2	0	6
February*	0	0	0	0
March*	1	0	1	0
April	7	1	0	0
May	34	5	3	2
June	4	1	0	0
July	81	46	16	1
August	45	27	11	2
September	41	7	1	3
October	95	23	6	8
November	48	32	10	9
December	40	31	9	7
Total	403	175	57	37

* - Corrupt data 20.1.98 to 12.3.98 and 24.2.98 to 3.3.98

4.4 River Calder - Calder Hall

Month	<35.0 cm	35.1- 50.0 cm	50.1- 65.0 cm	>65.0 cm
January	0	0	1	3
February	0	0	0	1
March	0	0	0	0
April*	0	557	1	0
May*	0	36	1	3
June	0	68	21	4
July*	0	72	13	0
August	0	18	6	0
September	0	4	3	0
October	0	13	6	0
November	0	4	5	0
December	0	2	2	0
Total	0	774	59	11

Corrupt data: 1.5.98 to 21.5.98, 1.7.98 to 7.7.98, 20.11.98 to 26.12.98. Overall data quality in 1998 is questionable

4.5 River Ribble Catchment

	WADDOW WEIR				LOCKS WEIR			
Month	<35.0 cm	35.1- 50.0 cm	50.1- 65.0 cm	>65.0 cm	<35.0 cm	35.1- 50.0 cm	50.1- 65.0 cm	>65.0 cm
Jan	0	0	0	0	0	0	0	0
Feb	0	0	0	0	7	6	0	0
Mar	0	0	0	0	25	9	2	3
Apr	0	0	0	0	20	13	3	2
May	*	*	*	*	1	2	1	1
Jun	70	35	14	14	5	9	1	6
Jul	338	93	17	10	5	5	4	3
Aug	293	168	39	16	11	8	4	48
Sep	136	71	23	10	12	6	7	31
Oct	325	157	76	76	16	10	10	81
Nov	37	19	7	4	1	1	1	18
Dec	23	3	2	1	11	8	3	189
Total	1222	546	178	131	114	77	36	382

4.6 River Hodder

WINKLEY WEIR				
Month	<35.0 cm	35.1- 50.0 cm	50.1- 65.0 cm	>65.0 cm
Jan	0	2	1	2
Feb	3	5	0	0
Mar	7	7	2	3
Apr	28	14	4	4
May	17	7	7	26
Jun	479	513	265	169
Jul	256	250	100	74
Aug	51	75	26	29
Sep	44	31	15	18
Oct	83	74	62	94
Nov	23	30	16	29
Dec	7	13	5	15
Total	998	1021	503	462

4.7 Yearl Counter R Derwent and Corby Hill R Eden

YEARL			CORBY HILL	
Month	Up	Down	Up	Down
Jan	-	-	204	166
Feb	0	0	174	151
Mar	56	30	525	618
Apr	182	71	17	13
May	-	-	28	15
Jun	132	11	-	-
Jul	711	40	-	-
Aug	721	70	856	212
Sep	405	29	177	45
Oct	852	69	405	191
Nov	342	19	102	5
Dec	101	38	57	17

5. COUNTS OF SALMON AND SEA TROUT SPAWNING REDDS

RIVER/AREA	1994		1995		1996		1997		1998	
	Salmon	S/Trout	Salmon	S/Trout	Salmon	S/Trout	Salmon	S/Trout	Salmon	S/Trout
Eden d/s Eden Grove	-		No	Count	See	Below				
Eden d/s Eden Brow			No	Count	See	Below				
Eden u/s Temple Sowerby	278		532	-	535	-	165		179	0
Eden d/s Temple Sowerby	17		-	-	193**	-	2 (tribs only)		13	0
Eamont	255		330	-	230	-	35 (tribs only)		24 (tribs only)	0
Lowther			214	-	149	-	73		131	0
Irthing			176	-	43*				21	6 brown
Gelt			No	Count	-*	-			31	0
Border Esk			288	227	243	143	197	37	55	12
Caldew			201	-	169	-	182	5 trout	129	2 trout
Liddel			157	62	308	84	29	115	16	11
Wampool/Waver			7	11						
Lyne					36	153	4	74		

Note: In all these years high and turbid river conditions made redd counting difficult or impossible and the figures given above are undoubtedly incomplete. 1993/4 particularly poor weather. Only limited count possible. 1995 Good year North & West Cumbria due to low flows: redds easy to see

* very limited count

** Includes all d/s Eden counts

5. COUNTS OF SALMON AND SEA TROUT SPAWNING REDDS

RIVER/AREA	1994		1995		1996		1997		1998	
	Salmon	S/Trout	Salmon	S/Trout	Salmon	S/Trout	Salmon	S/Trout	Salmon	S/Trout
Ellen	55	19	76	82	34	12	105			
Derwent	318	90	378	-	342	-	22	12*		
-Marron	73	16	173	-	30	25	61	2		
Cocker	132	--	187	-	94	-	72			
Greta	33	--	117	-	14	-	62			
Ehen	88	93	157	174	114	61	18	43+	12++/+	0
Keekle	--	5**	0	7	not	counted	0	6+	0+	3
Dub Beck	--	25	0	34	not	counted	0	9+	not	counted
Calder	39	2	37	11	32	16	7	1++	not	counted
Irt	105	55	284	95	213	156	88	70+	108+	101
Bleng	32	5	(See	Irt)	(See	Irt)	(See	Irt)	(See	Irt)
Esk	31	55	99	91	27	181	0	31++	3++	7
Mite	30	5	34	43	19	16	18	10+	35+	10
Annas	43	25	35	25	not	counted	4	27++	13+	1

* Main river not all done
** In divert channel . High water hampered all counts in 1994
+ High flows hampered counts
++Incompletecounts

5. COUNTS OF SALMON AND SEA TROUT SPAWNING REDDS

RIVER/AREA	1994		1995		1996		1997		1998	
	Salmon	S/Trout	Salmon	S/Trout	Salmon	S/Trout	Salmon	S/Trout	Salmon	S/Trout
Duddon	110	286	125	323	121	295	34	107*	81*	201
Crake	160	451	222	441	141	229	25	220*	72*	209
Leven & tribs	148	510	275	743	299	450	8	93**	115*	54
Eea	Not	Counted	**	13**	58*	55	0	91*	51*	139
Winster	65	153	97	214	47	113	15	75**	6*	59
Gilpin	80	214	60	134	32	159	4	49**	9*	70
Kent & Tribs	944	534	1693	1060	1040	586	137	400**	613*	434
Bela	105	143	63	285	68	217	64	119**	60*	238
Kirkby Pool & Tribs									34	171
Rusland Pool									30*	331
Keer	-	-	-	56	5	62	0	72		
Lune	-	-	793	7	931	10	197**	24**	472**	301
Rawthey	-	-	205	127	-	-	47	160	1*	25
Dee	-	-	130	93	-	-	72	87		
Greta	-	-	22	28	-	-	101	153	50*	15
Wenning	-	-	279	271	-	-	79	233	62*	149
Other Lune tribs	-	-	71	564	370	302	41	249	34*	41
Ribble	-	-	309	380	250	142	164*	289*	250**	205
Hodder	-	-	449	479	288	507	31	408	53**	426
Wyre	-	-	25	55	19	31	25	85	27**	44
Conder				7	3	41	2	26	3**	23

* High water hampered counts High water hampered counts 1994 Many rivers incomplete ** Incomplete count

6. FISH MORTALITIES

6.1 SIGNIFICANT FISH KILLS

The tables below illustrate the main fish kill incidents (Greater than 20 fish). The causes have been split into four categories : pollution (sewage effluent and industrial discharges), environmental (low dis

6.1.1 NORTH AREA

LOCATION	DATE	NO.	SPECIES	CAUSE
Woodend Pool		50	carp	environmental

6.1.2 CENTRAL AREA

LOCATION	DATE	NO.	SPECIES	CAUSE
R Darwen, Feniscowles to Roach Bridge	25-Jan	49	perch	pollution
		47	roach	
		290	trout	
		55	dace	
		27	chub	
		5853	minor species	
R Wyre, Sparrow Gill	04-Feb	22	brown trout	pollution
LL Canal, Burnley	19-Apr	70	bream/roach/perch	environmental
LL Canal at Adlington	07-May	200	mixed coarse	
R Alt at Altmouth PS	14-May	5	roach	pollution
		4	eels	
		676	sticklebacks	
Walton Hall Park Lake Liverpool	17-May	155	roach	environmental
R Ribble at Settle	22-May	38	brown trout	environmental
R Alt at Altmouth PS	22-Jun	30	roach	pollution
		2	eels	
		numerous	sticklebacks	
EA Stock Pond Nr Scorton	25-Jun	95	bream/roach/perch	environmental
		1	perch	
		1	roach	
Barton Brook	16-Jul	11	brown trout	pollution
		143	chub	
		79	gudgeon	
		55	dace	
		74	eels	
		000's	minor species	
Queen St Lodge Harle Syke	22-Jul	46	bream	other
		14	roach	
		36	perch	
Little Spookies Wood, Knowsley	30-Jul	4	carp	pollution
		30	roach	
		5	bream	

Chingle St John, Goosnargh	03-Aug	6	roach	pollution
		6	brown trout	
		6	rainbow trout	
		204	swan mussels	
Lancaster Canal, Garstang	04-Aug	250	roach	pollution
		2	pike	
		3	tench	
		250	rudd	
		5000	roach/rudd fry	
Foxhouses Lake, Scorton	17-Aug	70	rainbow trout	environmental
LL Canal at Clayton	17-Oct	100	roach/bream	unknown
		2000 approx	mixed coarse	

6.1.3 SOUTHERN AREA

LOCATION	DATE	NO.	SPECIES	CAUSE
Bridgewater Canal Waters to Cornbrook St.	10-Jan	5000	Chub	Pollution
Partridge Lakes Glazier Lane, Culcheth	13-Jan	40	carp	Disease
Debdale Reservoir Lodge Pool	5-Feb	28	Bream (Skimmer)	Pollution
		15	Roach	Pollution
		1	Chub	Pollution
Hall Farm Bredbury	24-Feb	20	roach	Unknown
		20	chub	Unknown
Wingate Reservoir Longford Rd West, Levenshulme	21-Mar	20	Carp (Common)	Disease
Sinderland AC Pool Droylsden	29-Mar	32	roach	Disease
		4	bream (skimmers)	Disease
St. Helens Canal Spike Island, Widnes	30-Apr	24	roach	Disease
Haddock Wood Pool Runcorn	14-May	1500	Carp (Crucian)	Environmental
The Moat Dunham Massey Park, Dunham	19-May	25	Roach	Environmental
Abney Hall Fishing Pool Cheadle, Stockport	20-May	45	Roach	Environmental
T.B.A Rooley Moore Road, Rochdale	25-May	8	Dace	Pollution
		22	Brown Trout	Pollution
Astley Brook Bolton	26-May	145	Brown Trout	Unknown
		7	Roach	Unknown
Hindley Deep Pit Hindley, Wigan	26-May	300	Roach	Environmental
Trent & Mersey Canal Moston, Elworth	27-May	10	Roach	Pollution
		10	Stoneloach	Pollution
		25	Sticklebacks	Pollution
Trent & Mersey Canal Moston, Elworth	27-May	50	Roach	Pollution

Cartwheel Lodge Shepherd Street, Brandlewholme	4-Jun	67	Roach	Environmental
		9	Bream	Environmental
		36	Perch	Environmental
Rochdale Canal Milnrow	6-Jun	42	Roach	Pollution
		12	Tench	Pollution
Bull Gate Cottage Pool Bosley, near Macclesfield	30-Jun	24	Bream	Pollution
Trent & Mersey Canal Dutton	29-Jul	40	Roach	Unknown
Peover, Wincham, Smoker, Arley	11-Aug	25	Perch	Pollution
		26	Roach	Pollution
		26	Chub	Pollution
		6	Perch	Pollution
		1000	Bullhead	Pollution
Peover, Wincham, Smoker, Arley	11-Aug	7	Grayling	Pollution
		1	Brown Trout	Pollution
		25	Dace	Pollution
Peak Forest Canal Hyde	13-Sep	15	Roach	Pollution
		7	Bream	Pollution
		1	Pike	Pollution

7. DETAILS OF FISHERIES PROSECUTIONS (SALMON AND FRESHWATER FISHERIES ACT 1975)

OFFENCE	SECTION	NO. OF CHARGES	DISMISSED	WITHD/NS	COND DIS	ABS DIS	PROB. ORDER	NO SEP. PENALTY	NOT PROVEN	FINES £	COSTS £
Prohibited Implement	1	8		3						100	90.00*
Unclean / immature fish	2										
Fixed Engine	6										
Close Season Salmon	19 19(2)										
Trout	19(4)	3				1				95	80.00
Freshwater fish	19 (6)	7						1		210	99.99
Rainbow Trout	19(7)										
Unlicensed instrument - Coop	27										
hands											
net		6			1					206	410.00*
rod		480		44	22	13		1		19082	18506.75
Eel fork											
hand line											
Introducing fish	30	2		3							
Refuse Seizure	31	2						2			
Failing to prod/to state	35	40		2		1		1		1830	1100.00
Set lines	27										
TOTAL		549		52	23	15		5		21523	20286.74

* 3 X 3 months imprisonment

FISHERY BYELAWS

OFFENCE	BYELAW	NO. OF CHARGES	0	WITHD/NS	COND DIS	ABS DIS	NO SEP. PENALTY	FINES £	COSTS £
	7b	4		1				170	120
	11								
	9								
	12(x)	1			1				50
	12(vii)								
	17								
	18(i)	12		2		1	1	335	179.99
	18(ii)	3					1	85	40.01
	19								
	20	2						50	13.34
	22	4						253	140
	23								
	26								
	24(a)								
Sea Fishery Committee	7								
Byelaws									
	11								
Totals		26		3	1	1	2	893	543.34

MISCELLANEOUS LEGISLATION

OFFENCE	ACT	NO. OF CHARGES	DIS MISSED	WITHD/N S	COND DIS	ABS DIS	NO SEP. PENALTY	FINES £	COSTS £
Angling in private waters	Theft Act 1968								
Salmon handling	Salmon Act 1986	7		3				325	200
Threatening behaviour	Public Order Act 1986	2			2				208.34
Obstruction	Police Act 1964	4			3			50	269.99
Skerton Weir Byelaw 1									
Assault	Offences Against the Person Act 1861								
Attempting to pervert the course of justice	Common Law Offence								
Totals		13		3	5			375	678.33

8. NUMBERS OF ROD AND COMMERCIAL FISHING LICENCES ISSUED

8.1 Rod and Line

COARSE LICENCES	North	Central	South	Total.
FULL	4,747	17,278	42,784	64,809
CONCESSION	1,699	6,700	17,602	26,001
8 - DAY	782	613	1,193	2,588
1 - DAY	3,037	6,556	15,229	24,822
TOTAL COARSE	10,265	31,147	76,608	118,220
SALMON LICENCES				
FULL	1,231	1,094	747	3,072
CONCESSION	549	610	426	1,585
8 - DAY	284	105	104	493
1 - DAY	862	671	278	1,811
UPGRADES				
FULL COARSE TO SALMON	157	107	35	299
CONCESSION COARSE TO SALMON	30	23	6	59
TOTAL SALMON	3,113	2,610	1,596	7,319
GRAND TOTAL	**13,378**	**33,757**	**78,404**	**125,539**

8.2 Instruments Other Than Rod and Line

Northern Area	No	No Endorsees	Duty £	Amount £ (incl. Endorsees)
Whole area - Haaf nets	128	20	100	12,804.0
R.Eden District -Coops	3	6	257	772.0
South West Cumbria - Garth	0			
Public Waters within jurisdiction - Drift nets	4	15	408	1,635.0
Duddon Estuary - Draw or Seine Nets.	0			
Kent Estuary - Lave Nets	8	0	100	800.0
Leven Estuary - Lave Nets	6	0	100	600.0
Derwent Coop	0			
Central Area				
Ribble Estuary - Drift or Hang Nets	5	14	297	1,487.8
Lune Estuary - Drift or Hang nets	10	36	408	4,087.2
- Draw or Seine Nets	1	5	368	369.0
- Heave or Haaf Nets	26	0	200	5,200.0
Totals	**191**	**96**		**27,755.2**

Eel Fishing Licences - Whole Area

	Duty £	Licences	No. of Nets	Amount £
Fyke Nets	5.5	17	359	1974.5
Traps/Putcheons/ Baskets	16.6/25	6	150	99.6
Dip nets	11	50	50	550
Fixed eel traps		0	0	
				2624.1

8.3 Numbers of Persons Engaged in Commercial Salmon and Trout Fishing

TYPE OF NET, etc

AREA	Haaf	Drift	Draw	Lave	Fixed Engine
NORTH					
Licence Holders	128	4	0	14	3
Endorsees	20	15			6
CENTRAL					
Licence Holders	26	15	1		
Endorsees	0	50	5		

8.4 General Licences Number issued = 14 Total value = £2,308.1

8.5 Temporary Licences (Rod and Line) Number issued = 21 Total value = £340.2

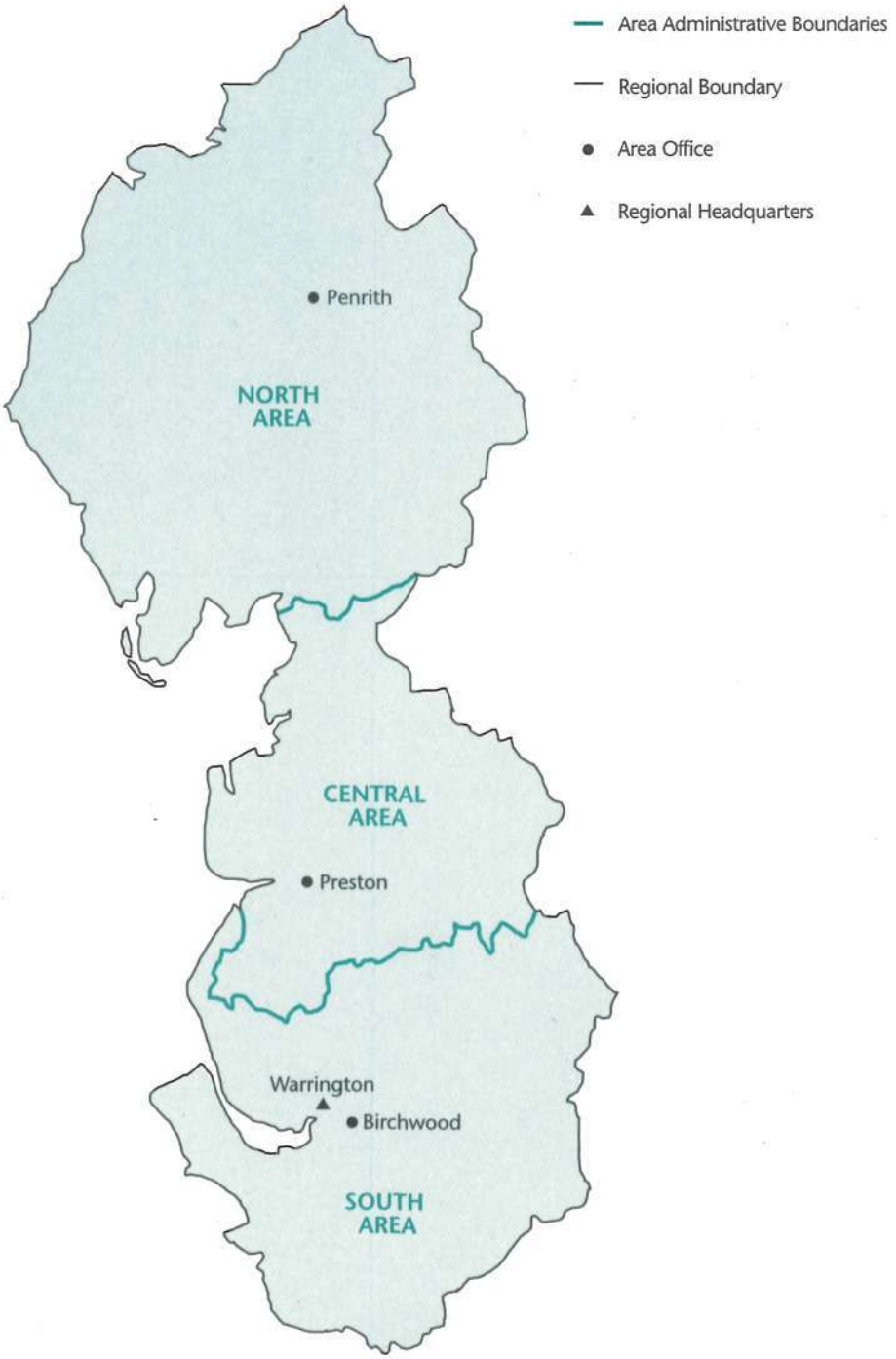
NORTH WEST REGION ADDRESSES

REGIONAL OFFICE
Environment Agency
PO Box 12
Richard Fairclough House
Knutsford Road
Warrington WA4 1HG
Tel: 01925 653 999
Fax: 01925 415 961

NORTH AREA OFFICE
Environment Agency
Ghyll Mount
Gillan Way
Penrith 40 Business Park
Penrith
Cumbria CA11 1BP
Tel: 01768 866 666
Fax: 01768 865 606

CENTRAL AREA OFFICE
Environment Agency
Lutra House
Dodd Way
Walton Summit
Bamber Bridge
Preston PR5 8BX
Tel: 01772 339 882
Fax: 01772 627 730

SOUTH AREA OFFICE
Environment Agency
Appleton House
430 Birchwood Boulevard
Birchwood
Warrington WA3 7WD
Tel: 01925 840 000
Fax: 01925 852 260



Internet World Wide Web www.environment-agency.gov.uk

For general enquiries please call your local Environment Agency office. If you are unsure who to contact, or which is your local office, please call our general enquiry line.

ENVIRONMENT AGENCY GENERAL ENQUIRY LINE
0645 333 111

The 24-hour emergency hotline number for reporting all environmental incidents relating to air, land and water.

ENVIRONMENT AGENCY EMERGENCY HOTLINE
0800 80 70 60

ENVIRONMENT AGENCY

NW-07/99-550-B-BEQS. Printed on recycled paper